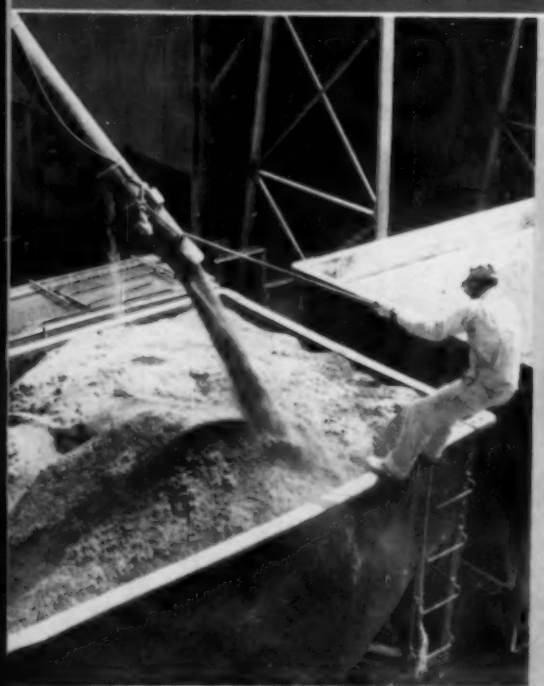
February 1958

Brick & Clay Record

LEADING CLAY JOURNAL OF THE WORLD

BRICK • REFRACTORIES • STRUCTURAL TILE • SEWER PIPE • DRAIN TILE • TERRA COTTA • ROOFING TILE • CLAY AGGREGATE



Tips on Handling of Lightweight Aggregate

Page 53

Kansas B&T: A two-part story on how they doubled production, how they control costs through complete records.

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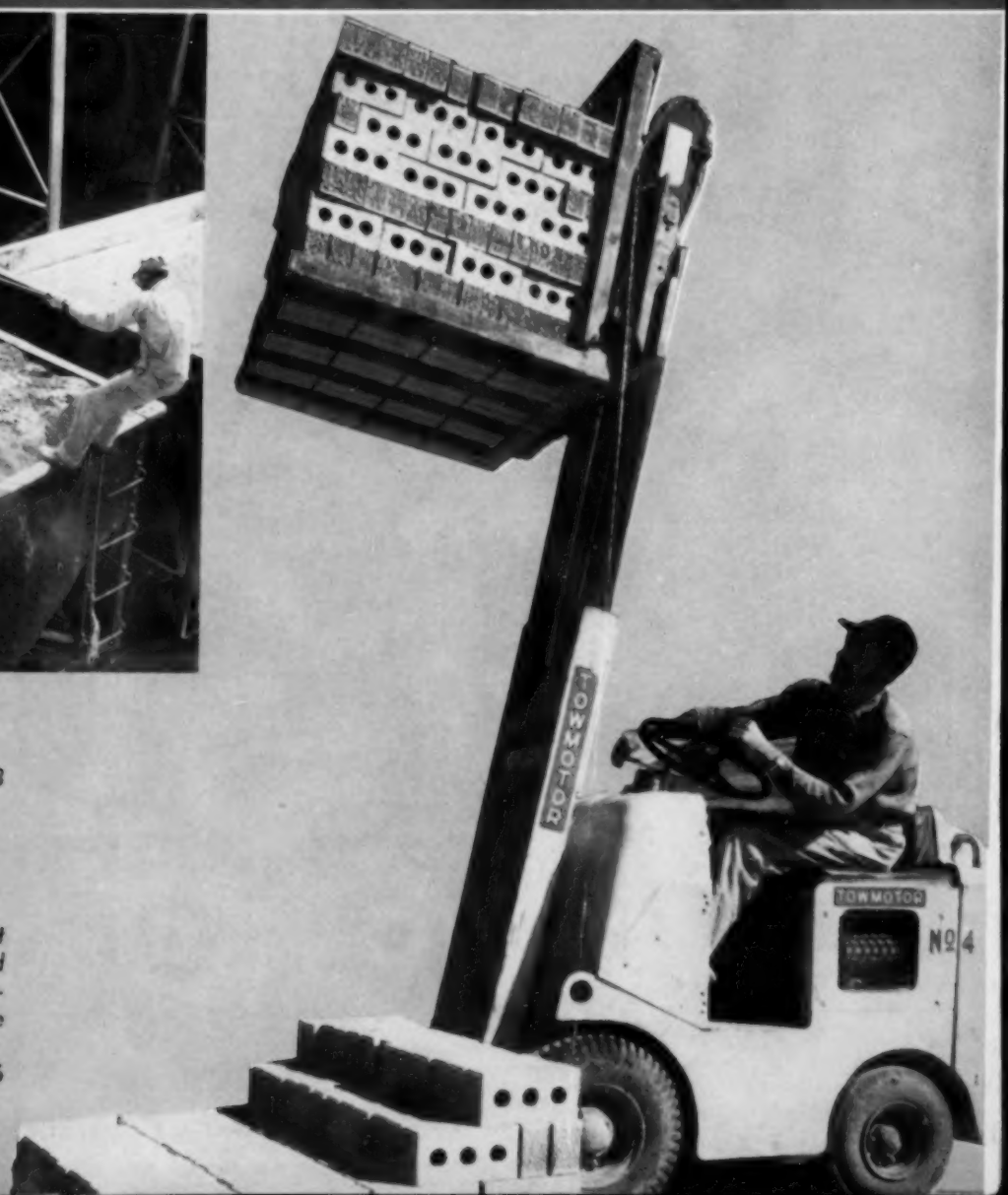
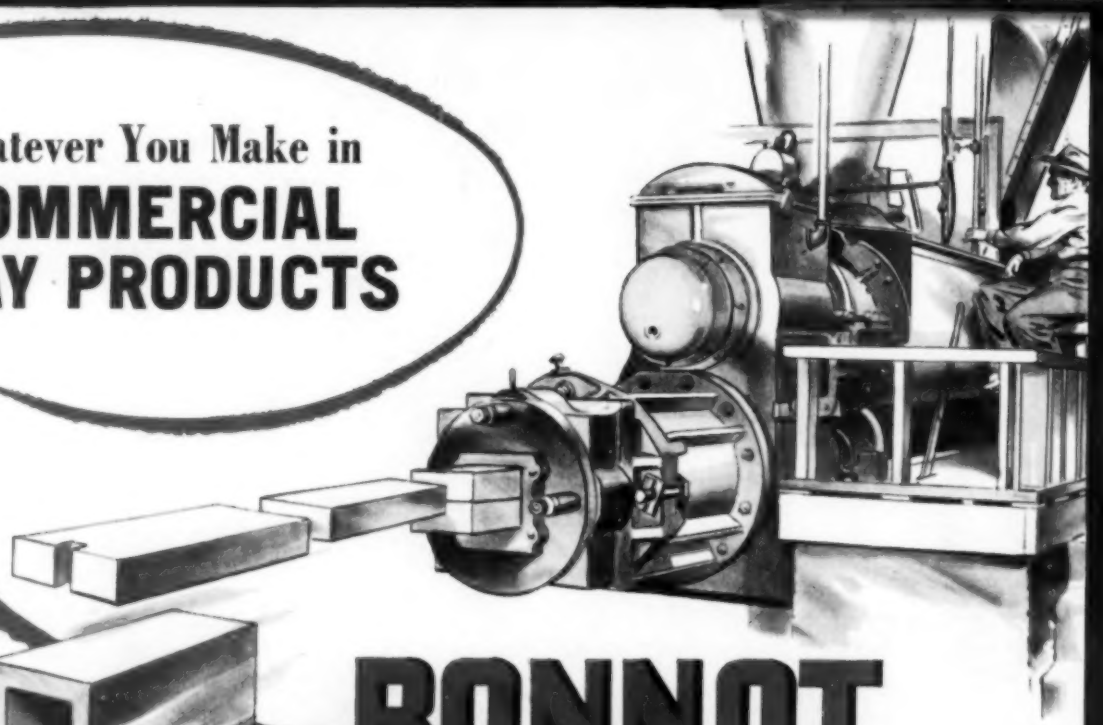


Whatever You Make in COMMERCIAL CLAY PRODUCTS



BONNOT

can supply dependable equipment

Whether you are modernizing existing lines, increasing capacity or rebuilding present machines, Bonnot can effectively help you meet today's "quantity demands" for quality clay products at competitive prices. Actually, there are . . .

Three major reasons why leading clay products manufacturers *turn first to Bonnot.* Long experience proves that:

1 **Bonnot equipment is *"engineered to local conditions"***

2 **the Bonnot foundry, specializing in NiHard and other iron alloys, *provides quality wearing parts* and *eliminates delay when emergency replacements are needed.***

3 **Bonnot engineers will work with you (in factory research lab or your own plant) *to overcome special problems or design the exact machinery needed.***

Brick — tile — refractories or clay pipe, whatever your products and requirements, avail yourself of Bonnot's 67-year reservoir of established skill and experience in all phases of designing and manufacturing clay processing equipment that combines *high productivity with low manufacturing cost.* YOUR QUESTIONS WILL GET IMMEDIATE ACTION.

STEP AHEAD WITH BONNOT

Crushers	Pug Mills
Hammer Mills	Auger Machines
Dry Pans	Vacuum Machines
Wet Pans	Special Extruders
Grinders	Cutters
Feeders	Represses
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Special Machines to Order

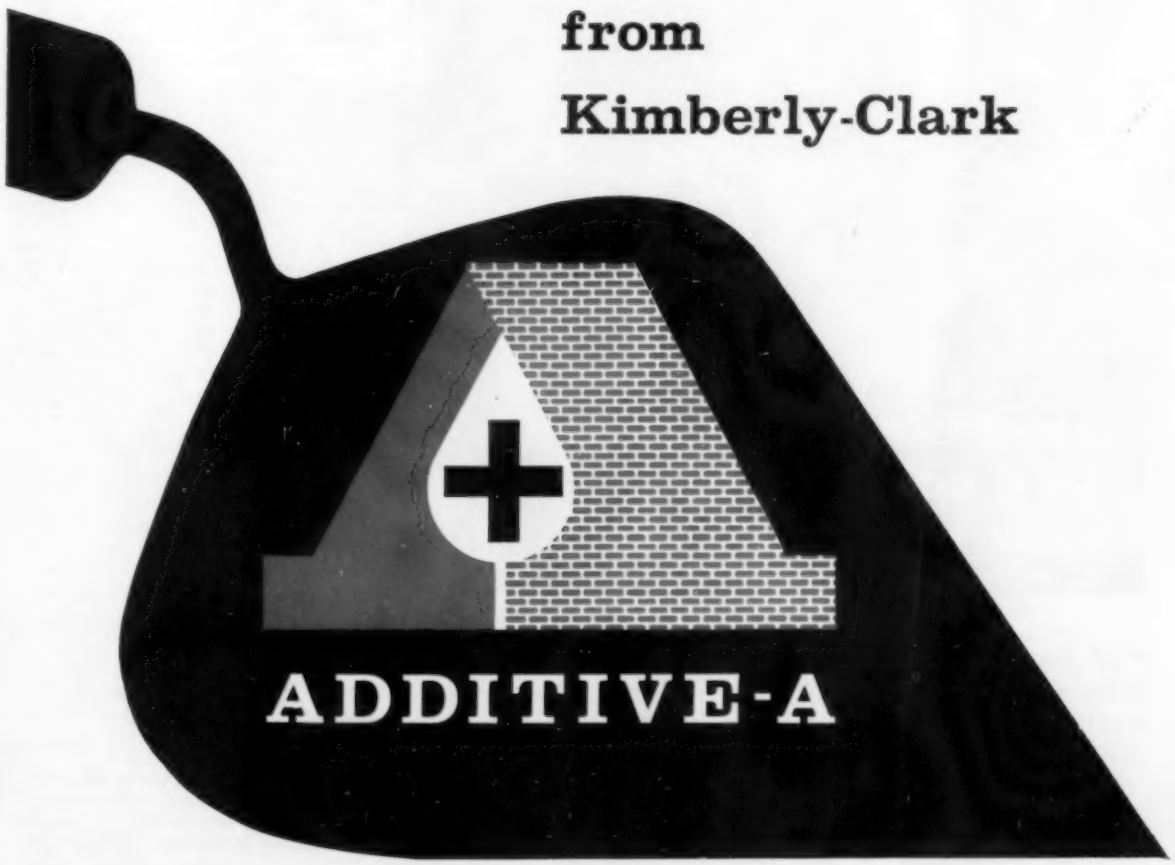
Direct Foundry Service

The BONNOT Co.
CANTON 2, OHIO

Rugged Machines for Constant Low Cost Operation — BONNOT'S the Buy

How to cut damage—expedite handling

Increase wet green strength with Additive-A from Kimberly-Clark



Where tight control of several variables means better bricks, increasing wet green plastic strength is vital. This greater strength together with improved plasticity is readily achieved by adding Kimberly-Clark's Additive-A to the tempering water.

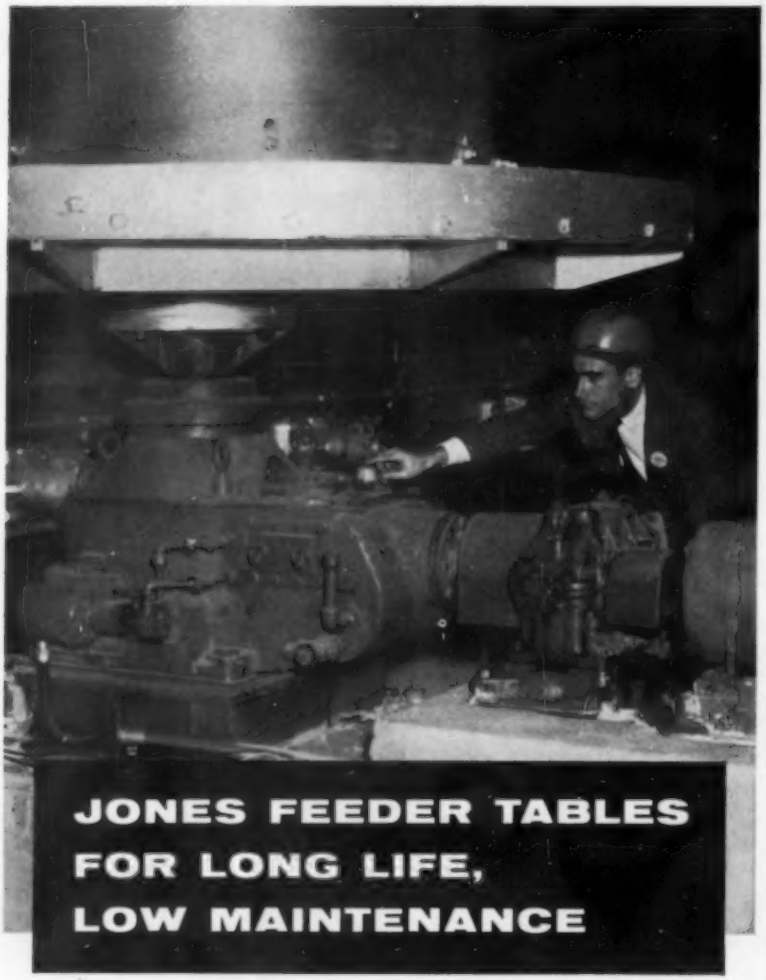
Here's what Additive-A—new, multi-purpose clay improver—will do for you: Increase green plastic strength • Permit reduction of tempering water • Cut dryer loss • Reduce laminations • Improve workability of the clay • Increase dry green strength • Permit more even temper • Extend life of augers, knives, dies and liners • Control scumming • Upgrade quality of all ware.

Write for descriptive folder, to:

Kimberly-Clark Corporation • NEENAH, WISCONSIN

CHEMICAL PRODUCTS

"Brick & Clay Record is published monthly by Industrial Publications, Inc., 5 S. Wabash, Chicago 3, Ill. Subscription price: U. S. A. and Canada, $5.00 per year; three years, $10.00; Foreign subscription price: $7.00 per year; three years, 15.00. Vol. 132, No. 2. Entered as Second Class Matter January 2, 1911, at the Post Office at Chicago, Ill., under the Act of March 3, 1879. Additional entry at Pontiac, Ill.



This Hewitt-Robins Jones feeder table at United States Steel's Fairless Works provides a uniform supply of sinter fines from an overhead hopper to an H-R vibrating conveyor. The table is mounted directly on the output shaft of a Jones right angle reducer driven by a Jones heavy duty herringbone unit.

Over the past 25 years, the hundreds of Jones feeder table installations have averaged only 68¢ per year per unit for spare parts. This remarkable record of trouble-free operation is the result of Jones' long experience with all principal types of feeder table drives—experience that you can call upon for the right type of feeder table gearing to meet your specific needs. To find out how H-R products and services can help you, consult your classified telephone directory for the nearest H-R representative, or contact Hewitt-Robins, Stamford, Connecticut.

HR HEWITT-ROBINS

CONVEYOR BELTING AND IDLERS... POWER TRANSMISSION DRIVES
INDUSTRIAL HOSE... VIBRATING CONVEYORS, SCREENS & SHAKEOUTS

LETTERS To the Editor

Stahlton Series

Editor, BRICK & CLAY RECORD—Your article entitled "Stahlton" and dealing with the Stahlton system of prestressed clay block beams was very interesting. Since prestressed concrete beams are already being manufactured in this country and are known to architects and builders, it would seem that a similar type of product would have that much of the groundwork already laid.

In fact, I believe that there was a forerunner of this type made from hollow tile that was used on school buildings during the early '20's.

For these reasons, I think your article is very timely. I should like to get all the information that is available and I shall impatiently await your following articles. Please advise if there will be tear sheets available on these articles and the charge.

Perhaps you can also tell me to whom I could write to get any additional information concerning the costs, production techniques, etc., regarding setting up a plant for this product.

J. P. Kaderly
1403 Third St. N. W.
New Philadelphia, Ohio

Editor, BRICK & CLAY RECORD—I am enclosing, herewith, a letter addressed to Mr. Arthur Klages, who wrote an article in the January issue . . . If you have Mr. Klage's address would you kindly forward this letter to him? I would greatly appreciate your sending his address to me also.

A. J. Bohn, Sr.
A. J. Bohn Co.
Atlanta, Ga.

Ed. Note: A great deal of interest has been shown, as evident above, in the new series of articles on the Stahlton process used widely in Europe. The first article was primarily explanatory; the one in this issue covers the competition for such a product that exists in the US; later articles cover all angles, such as production methods, costs of manufacture, installation, etc. If you're interested in this huge new market for clay products, watch the coming issues for the monthly article by Arthur Klages, whose address is 851 Post St., San Francisco, Calif.

Brick & Clay Record

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Market in US is wide open; author urges more attention to quality of clay products, rather than to product.

Lightweight Agg. Handling 53

Discussion of advantages of prewetting, advances in bins, other aspects of LW aggregate operation.

Mexico, Mo. 61

How a community cooperated with industry to develop full recreation program, making a better town.

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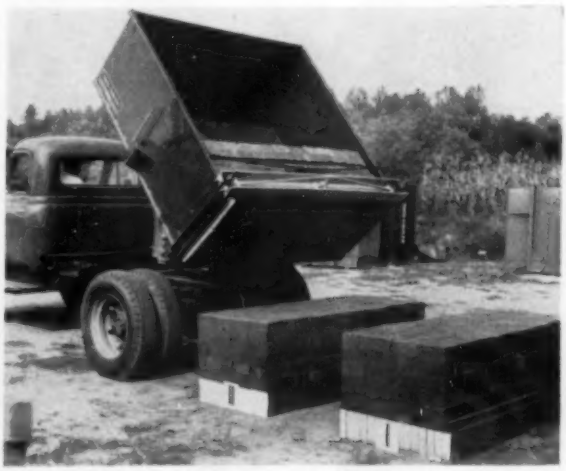
SPLIT LOADS

without STRAPPING



NOW YOU CAN DELIVER THREE SEPARATE LOADS OF BRICK TO THREE DIFFERENT LOCATIONS, ALL FROM ONE INITIAL LOADING. AND, WITHOUT COSTLY STRAPPING.

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• **MONEY**

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Pipe construction is completely flexible and adaptable to your individual needs.

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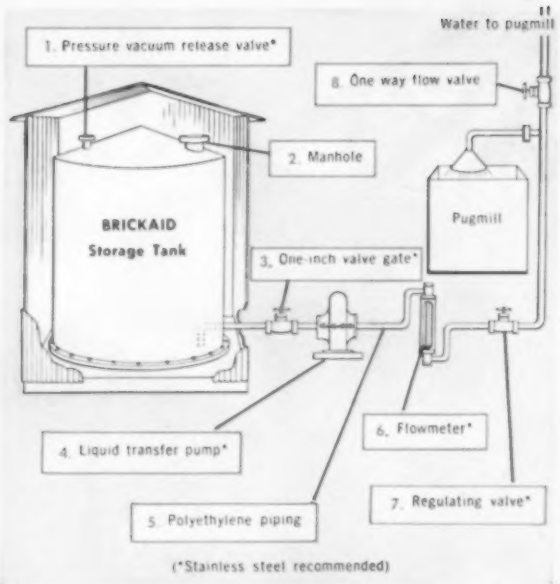


BRICKAID EQUIPMENT LAYOUT is shown in this diagram. Recommended procedure is to pump BRICKAID through a tee in the downstream side of control valve.

IT'S EASY TO USE BRICKAID. Pugmill operator can measure and add it. Best method for controlling addition is simple flowmeter, as shown above.

Here's How New Spencer BRICKAID...

1. **Reduces Black Coring Up to 50%**
2. **Cuts Dryer Loss 70% and more**
3. **Decreases Firing Time Over 10%**
4. **Increases Green Strength**

A series of scientific tests have recently been conducted at the factory of one of America's leading brick manufacturers, using Spencer Chemical Company's magical new brick additive, BRICKAID. In all these tests, black coring was cut at least 50%.

In the dryer, the primary effect of BRICKAID was to reduce losses from chipping and cracking. Before tests started, with a daily production of 65,000 bricks, this factory had an average chip and crack loss of 800 bricks per day. The loss dropped to an average of 200 bricks per day when BRICKAID was used.

Brick mud became stronger and tougher about 5 minutes after BRICKAID was added. The tendency of individual pieces cut from the column to show "finger printing" or other handling defects was much less. The vacuum on the extruder was considerably reduced without any tendency for the extruded material to delaminate.

When BRICKAID was added to clay at the rate of one gallon per ton of clay, it immediately reduced firing time from 80 minutes to 70 minutes. Yet the product quality was improved.

For more information about BRICKAID contact Sales Manager, Industrial Chemicals, Spencer Chemical Company, Dwight Building, Kansas City 5, Mo. He will be glad to send a BRICKAID salesman to visit your plant or to arrange for testing of your clays and shales with BRICKAID in our research laboratory.

SPENCER® **Brickaid**™

BRICK ADDITIVE

(A process patent on the use of BRICKAID is now pending.)

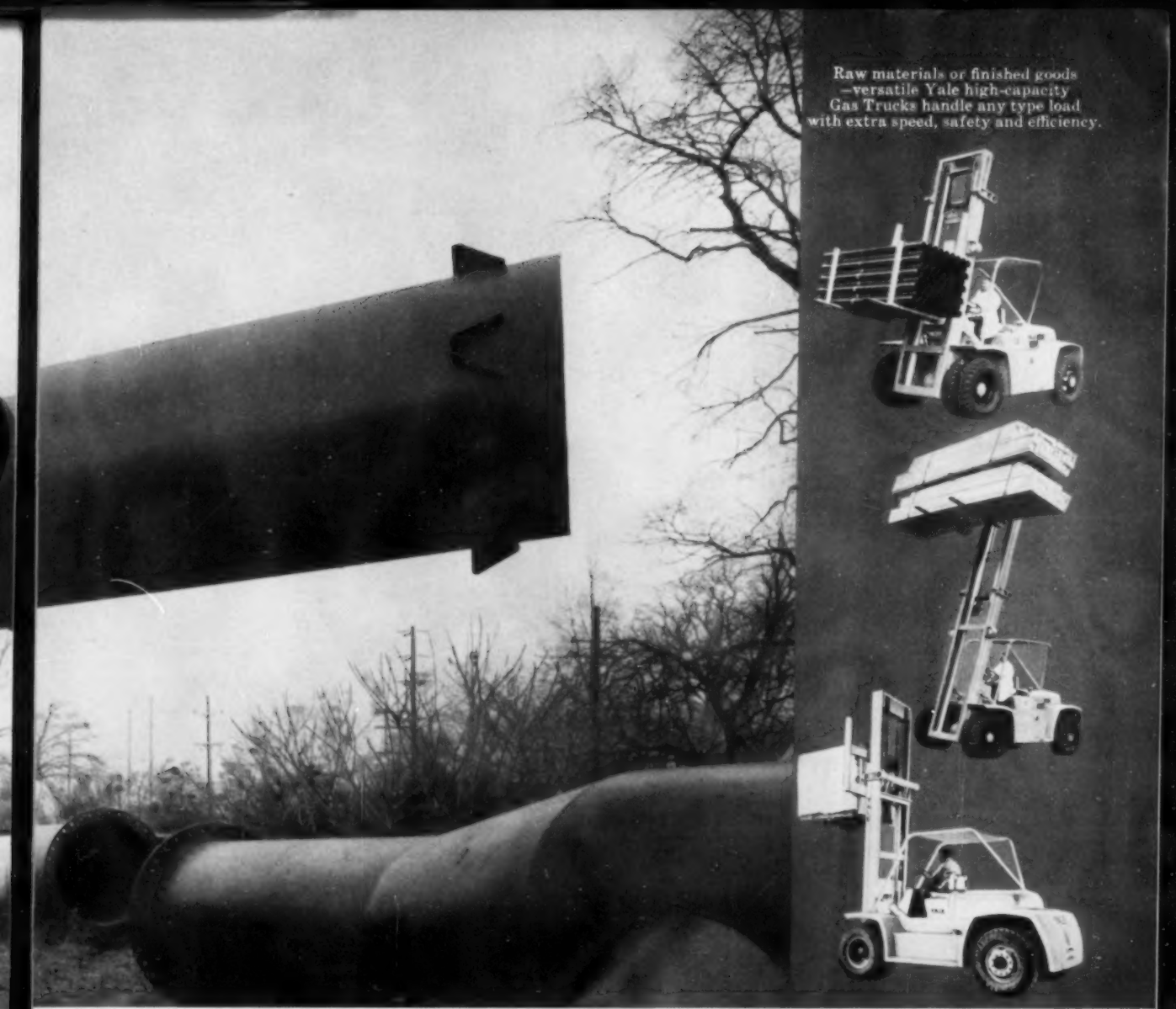
SPENCER CHEMICAL COMPANY • DWIGHT BUILDING • KANSAS CITY 5, MO.

Ambrose-Augusterfer Corporation has been awarded the contract for all major piping in Torresdale Filter Plant —now under construction in N.E. Philadelphia. Pipe being handled weighs over 10,000 lbs. and measures 40′ by 54″ in diameter.

Only Yale G-3 Gas

1. Wide Angle vision
2. Fast cycle operation
3. Greater load stability

Now full visibility, extra safety and handling speed for efficient, big-load operations...at low cost



Raw materials or finished goods —versatile Yale high-capacity Gas Trucks handle any type load with extra speed, safety and efficiency.

Trucks give you all 3

Maximum visibility, easy maneuverability, high speeds, safe stability—you'll find the combination of all these vital features exclusively in new Yale G-3 Series High-Capacity Gas Trucks.

Wide-Angle Vision—Yale's revolutionary open-front design reduces frontal obstruction. Upright channels are nested—hoisting cylinders wide-spaced—lifting chains located in front of cylinders, out of line of sight. Driver sits high in center—has 300% more visibility!

Fast Cycle Operation—Yale G-3 Gas Trucks maneuver quickly into position ...lift capacity loads at speeds up to 60 feet a minute...travel as fast as 20 m.p.h....spot loads accurately. This fast, smooth operation keeps materials on the move, saves time and handling dollars.

Greater Stability—Low center of gravity, broad lifting base, high underclearance, side-thrust rollers, wide channel-roller spacing, large pneumatic tires—these and many other features that assure load stability are *standard* on Yale High-Capacity Gas Trucks.

Yale G-3 Gas and LP-Gas Trucks come in capacities of 15,000 to 20,000 lbs.—with fully automatic torque transmission, fluid coupling or standard transmission. Complete line available in capacities of 2,000 to 20,000 lbs.

Get the full story. Send for your free copy of Bulletin #5230. The Yale & Towne Mfg. Co., Philadelphia 15, Pa., Dept. A-662.

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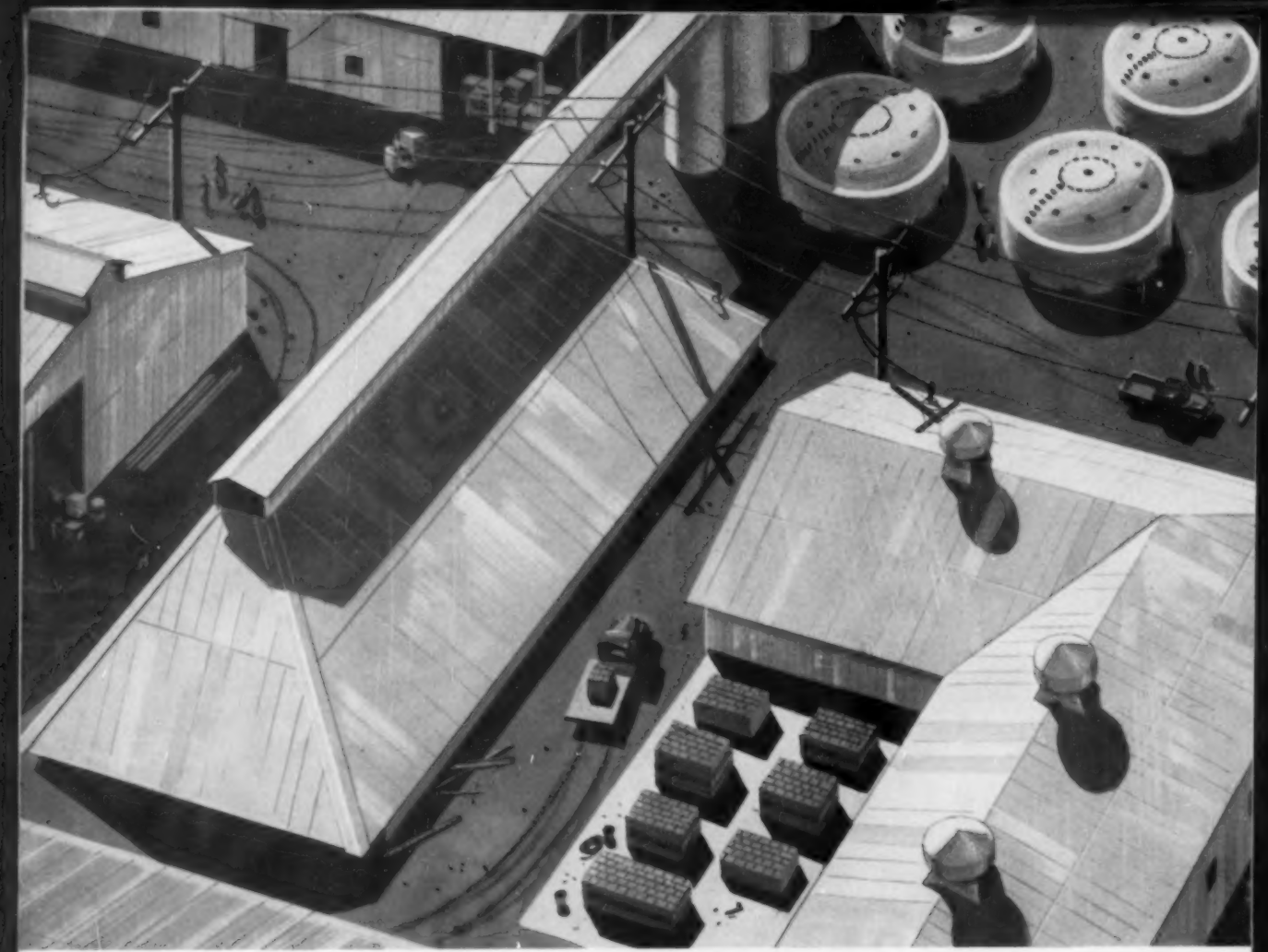
YALE MATERIALS HANDLING DIVISION. THE YALE & TOWNE MANUFACTURING CO. MANUFACTURING PLANTS: PHILADELPHIA, PA.; SAN LEANDRO, CALIF.; FORREST CITY, ARK.



A KAISER ALUMINUM ROOFING & SIDING SHEET TO SUIT YOUR NEEDS

Industrial Corrugated Roofing & Siding

Thickness: 0.024" and 0.032"
Length: 5' to 12' in 6" increments
Siding Width: 33⅓" and 47⅓" overall
Roofing Width: 35" and 48⅓" overall
Corrugation: ⅞" deep — 2.67" pitch
Finish: Plain Mill and Stucco Embossed

V-Beam Roofing & Siding

Thickness: 0.040" and 0.051"
Length: 5' to 22' in 6" increments and 22' 5"
Width: 41⅛" overall
V-Configuration: 1½" deep — 4⅞" pitch
Finish: Stucco Embossed

Ribbed Siding

Thickness: 0.032" and 0.040"
Length: 5' to 22' in 6" increments and 22' 5"
Width: 41⅓" overall
Rib Configuration: 1" deep — 4" and 8" pitch
Finish: Stucco Embossed

Also available with rib configuration 1½" deep — 5.33" pitch. Sheet thickness 0.032". Lengths 5' to 12' in 6" increments. Other specifications on request.

Flat Sheet Roofing & Siding

Thickness: 0.024" and 0.032"
Finish: Plain Mill and Stucco Embossed

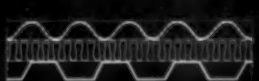
Full specifications on request.

NOTE: Kaiser Aluminum also offers a complete selection of flashing sheet, formed flashing, closures and other accessory building items.

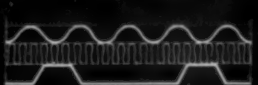
NEW! INSULATED ALUMINUM "SANDWICH" WALLS

Choose From These and Other Sandwich Combinations

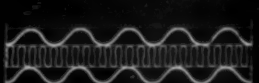
Inner Skin: 0.024" Industrial Corrugated Siding
Outer Skin: 0.032" Ribbed Siding—5.33" pitch



Inner Skin: 0.024" Industrial Corrugated Siding
Outer Skin: 0.032" Ribbed Siding — 4" pitch



Inner Skin: 0.024" Industrial Corrugated Siding
Outer Skin: 0.032" Ribbed Siding — 8" pitch



Inner Skin: 0.024" Industrial Corrugated Siding
Outer Skin: 0.032" Industrial Corrugated Siding

Before you build or modernize your brick plant

CONSIDER THESE THREE COST-SAVING ADVANTAGES OF KAISER ALUMINUM ROOFING & SIDING SHEET

1. Light Weight (about ⅛ the weight of steel) — to save you big money on labor, handling and construction time—*and* eliminate the need for heavy, expensive supporting structurals!

2. Corrosion Resistance (and they're rustproof, too) — to do away with the necessity of spending costly upkeep dollars on painting and other care.

3. Strength & Durability — with the added benefit of a distinctive heat-reflective, maintenance-free surface—to make your new building the most functionally attractive you've ever known!

80,000 SQUARE FEET COVERED AT BIG SAVINGS!

"In our business you've got to build *big*," says Mr. Dan C. Sill of his spacious new Kern Rock Company building in Bakersfield, California.

"But Kaiser Aluminum Industrial Roofing sheets have helped bring us outstanding service at remarkably low cost. We are especially pleased with our savings in both labor and material.

"The sheets we used measure 48 inches wide and .024 inches thick, with a 7/8-inch corrugation. These specifications allowed us to employ five-foot purlin spacing spans, figuring 35 pounds per square foot uniform loading based on a safety factor of two.

"Also, our maintenance costs are way down because the aluminum will never rust . . . will never need painting or expensive care.

"In fact, we're so completely satisfied that we have recently put up a similar 68,000 square foot building. Of course, we used Kaiser Aluminum Industrial Roofing."

There's never been anything so ideally suited for kiln buildings, clay storage, stock sheds and other large structures as Kaiser Aluminum's full line of industrial building products.

For A.I.A. File and full information, contact the Kaiser Aluminum sales office listed in your telephone directory. Or write Kaiser Aluminum & Chemical Sales, Inc., *General Sales Office*, Palmolive Bldg., Chicago 11, Ill.; *Executive Office*, Kaiser Bldg., Oakland 12, Calif.

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THE BRIGHT STAR OF METALS

See "MAVERICK." Sunday evenings, ABC-TV Network. Consult your local TV listing.

KOEHRING WORK CAPACITY *in action* . . .

A new 2-yard — Latest addition to the big Koehring line of excavators for mining and quarrying is this new 805. It's a heavy-duty 2-yard machine, with 25-foot deep-section shovel boom, and 18½-foot dual dipper sticks. You'll like the 805's power, strength, stability in heavy digging — and *extra capacity* as a dragline or crane for stripping, stockpiling, lifting. It handles 2 to 3-yard dragline bucket — lifts up to 52 tons.

"Diving" for gravel — Loading out of a water-filled gravel pit (right), this 405 dragline puts production on a big-tonnage basis. It has plenty of work-radius for this type of operation — can be used with 40 to 90 feet of boom, and handles 1 to 1½ cu. yd. bucket depending on weight of materials. Check its other work capacities on opposite page, then let your Koehring distributor show you what the 405 will do for you.

Re-working a slag bank — Once cast aside as waste, slag is now being reclaimed from this bank, run through a crusher, and used as sub-base material on road construction. During the process, slag is swept by a magnet to remove any scrap metal. Here, a Koehring 1½-yard 605 shovel loads the slag into Dumptors for haul to crushing plant. This combination of Koehring shovels and Dumptors makes a heavy-duty, high-production team. 6-yard Dumptor® climbs 24% grades fully loaded, dumps in one second, travels at same high speeds in either direction — no need to turn.

Mining copper ore — At this open-pit mine in the Southwest, overburden has been stripped down to pay-dirt. Next, a Koehring ½-yard 205 loads out copper-bearing ore for haul to smelter. Powerful crowd, fast retract, smooth swing, and instant dipper-trip speed production in the pit, keep trucks on the run.

Here are some figures that will interest you:

KOEHRING MODEL	SIZE DIPPER	LIFT CAPACITIES (Crawler ratings based on 75% of tipping load. Rubber-tired machines — 85% of tipping load.)	
205 CRAWLER	½-Yd.	30,000 lbs.	at 10-ft. radius
205 ON RUBBER	½-Yd.	30,000 lbs. 14,600 lbs.	at 12-ft. radius at 20-ft. radius
305 CRAWLER	¾-Yd.	30,000 lbs.	at 12-ft. radius
305 ON RUBBER	¾-Yd.	50,000 lbs. 15,800 lbs.	at 10-ft. radius at 30-ft. radius
405 CRAWLER	1-Yd.	40,000 lbs.	at 12-ft. radius
445 ON RUBBER	(Crane only)	90,000 lbs. 40,000 lbs.	at 15 ft. radius at 25-ft. radius
605 CRAWLER	1½-Yds.	72,300 lbs.	at 12-ft. radius
805 CRAWLER	2-Yds.	104,200 lbs.	at 12-ft. radius
1205 CRAWLER	3-Yds.	190,000 lbs.	at 12-ft. radius

Want more information? See Koehring distributor.

KOEHRING DIVISION OF KOEHRING COMPANY, Milwaukee 16, Wis.

MATERIALS EQUIPMENT SERVICES

TRACTOR-DOZER — Allis-Chalmers new HD-6 claims 65 belt HP, up to 15,500 lb. drawbar pull, forward speeds from 1.5 to 5.5 MPH and reverse speeds up to 4.1 MPH. Also has engine-mounted rams, only two linkage points. Allis-Chalmers Construction Machinery Div., Milwaukee 1, Wisc.
300/Circle on Reader's Service Coupon

CHEMICALS—Most southern brick and clay producers can get overnight service from this supplier of sulphur chemicals. Added to their offering is T-C Hydro, a high stability and uniformity agent. Tennessee Corp., 617 Grant Bldg., Atlanta, Ga.
301/Circle on Reader's Service Coupon

BRICK PRESS—In order to better orient the mix for the final compression stroke, Boyd presses now have an automatic "De-Airing Pause" in the machine's operation. This is claimed to allow trapped air to escape from the partially compressed material. Over 95% of American refractory production is said to be turned out on Boyd presses. Chisholm, Boyd, & White Co., 610 W. 57th St., Chicago 21, Ill.
302/Circle on Reader's Service Coupon

CONCRETE BLOCK—Because control is so important in selection of block aggregates to maintain uniform quality, Besser Co. makes available to Vibrapac users a special Materials and Methods Research & Testing department. Field engineers will come to your plant, gratis. Dept. M-M, Besser Co., Alpena, Mich.
303/Circle on Reader's Service Coupon

HYDRAULIC TRANSFER CARS—Claimed to be only car on market with truly variable speed. Hydraulic drive allows use of such auxiliary equipment as pusher cylinder on car to pull on and push off kiln cars, and even change dryers. Engineering Associates Inc., P.O. Box 5284, Asheville, N.C.
304/Circle on Reader's Service Coupon

FORK LIFTS—Reconditioned fork lifts are guaranteed to be as good as new by Memphis Equipment. 2,000 to 15,000-lb. models with solid or pneumatic tires; any size and lifting height, famous makes. Memphis Equipment Co., 766 S. 3rd St., Memphis, Tenn.
305/Circle on Reader's Service Coupon

GRINDER—Air pressure cylinders are exclusive Chambers features which are claimed to give exact pressure control. Two to each muller, they exert a range of pressure from less than deadweight (if desired) to 10 tons per muller. Chambers Bros. Co., 52nd and Media Sts., Philadelphia 31, Pa.
306/Circle on Reader's Service Coupon

CONSTRUCTION NEWS — Dodge. Reports give information of who's going to build what, when and where. You can pick the areas and type of construction activity that interests you—lets you know whom to contact and when to submit bids. F. W. Dodge Corp., 119 W. 40th St., New York 18, N. Y.
307/Circle on Reader's Service Coupon

ULTROX—A specially prepared zirconium opacifier, Ultrox helps to maintain uniformity of color and texture; every batch is carefully controlled for purity and particle size, fire-glaze tested to assure high quality in your production of glazed brick and tile at less cost; can be used for all ceramic glaze applications. Metal & Thermit Corp., Rahway, N. J.
308/Circle on Reader's Service Coupon

SCREENS—The Hummer screen with Ty-Electric heater screens damp clay efficiently. The W. S. Tyler Co., Cleveland 14, Ohio.
309/Circle on Reader's Service Coupon

TRACTOR-SHOVEL — A 100 HP Diesel with torque-converter drive develops up to 24,000 lbs. of "crowding power" for digging in the new 2 cu. yd. Case Terra-Trac Model 1000. Counter-rotating Terra-matic transmission is said to turn and maneuver faster. J. I. Case Co., Dept G1367, Racine, Wisc.
310/Circle on Reader's Service Coupon

EXTRUDERS—Bonnot Co. reports a Special Combination Extruder installed in 1912 at Metropolitan brick of Canton has produced over one billion brick in its 45 years of operation—enough for 101,250 homes. Bonnot Co., Canton 2, Ohio.
311/Circle on Reader's Service Coupon

RIGID FRAMES—in clear spans of 32', 36', 40', 50', 60', 70' and multiples thereof, as well as pipe structures that are flexible and adaptable to your individual needs are all available. R. G. Verner Steel Products Inc., Pine Bluffs, Ark.
312/Circle on Reader'r Service Coupon

SUPERLITE UNLOADERS—Claim low first cost, low operating cost, and fast, gentle handling. Builders Equipment Co., 2810 N. Central Ave., Phoenix, Ariz.
313/Circle on Reader's Service Coupon

BARIUM CARBONATE — Ozark Grade 50F Barium Carbonate is claimed to flow freely for effective control of scum and efflorescence. High 99.1% purity produces high reactivity. Technical bulletin available. Sherwin-Williams Co. Pigment, Color, & Chemical Div., 300 W. Lake St., Chicago 6, Ill.
314/Circle on Reader's Service Coupon

MOTO-BUG — Model S-10 is a fork lift with 1000 lb. capacity, lifting height of 6 feet—or, with the interchangeable hopper, a 10 cu. ft. power wheelbarrow, able to climb 16% ramps—or, with 4-foot platform, a heavy duty ¾-ton truck. Kwik-Mix Co. Div. of Koehring, Port Washington, Wisc.
315/Circle on Reader's Service Coupon

SCREENS—Leahy screens eliminate bothersome flexible connectors. Instead, multiple runs of highly-conductive bus bars permanently connected to screen jacket mounting remove the possibility of connections breaking. Deister Concentrator Co., 913 Glasgow Ave., Ft. Wayne, Ind.
316/Circle on Reader's Service Coupon

GLOVES — Tufthorse heavy split cowhide gloves avoid costly injuries to workers' hands. Samples sent. Des Moines Glove & Mfg. Co., Des Moines, Iowa.
317/Circle on Reader's Service Coupon

GRAY & DARK RED — The demand for these shades of brick is going up. Write to National for information on turning buff and light clays to gray and red to dark red, black and gun metal. National Paint & Manganese Co., Lynchburg, Va.
318/Circle on Reader's Service Coupon

DRYER CARS — Chase's bearings are claimed to be dust proof, oil retaining—flexible boxing with roller bearings. Steel liner is renewable—construction is sturdy. Chase Foundry & Mfg. Co., 2300 Parsons Ave., Columbus 7, Ohio.
319/Circle on Reader's Service Coupon

MASONRY WALLS—Get better design, rigid lasting qualities with Dur-O-wal patented steel reinforcing for masonry walls. More than 8,000 dealers to supply you. Dur-O-wal Div., Cedar Rapids Block Co., Cedar Rapids, Iowa.
320/Circle on Reader's Service Coupon

CLAY MACHINERY — Disintegrators, winding drums, soft mud brick machines, mould sanders, pugmills, roll crushers, granulators and sand dryers—Potts facilities are available for quick processing of your order. C.&G. Potts & Co., Indianapolis, Ind.
321/Circle on Reader's Service Coupon

INSULATING FIREBRICK—A new bulletin is available giving basic facts about IFB, its advantages in regular and salt glazing periodic kilns, and economies that can be expected. Bulletin R-43, Babcock & Wilcox Co., 161 E. 42nd St., N.Y.C. 17.
322/Circle on Reader's Service Coupon

COMBINED MACHINES — Model 60F combines the compactness of a combined de-airing machine with the convenience of separate drives. Double geared drives for both extrusion and pugging (in 11" x 30" ID open pugmill). Claimed to give 100,000 to 140,000 brick per 8-hour day J. C. Steele & Sons, Statesville, N.C.
323/Circle on Reader's Service Coupon

PLANT DESIGN—Hendryx designs face brick, sewer pipe and refractories plants as well as dryers, tunnel kilns and general improvements. Dwight B. Hendryx and Assoc., 6621 Darlington Rd., Pittsburgh 17, Pa.
324/Circle on Reader's Service Coupon

VIBRATORS—Air or electric, portable or permanent, silent or standard Cleveland has vibrators they claim will help you handle sand, clay or refractories. Cleveland Vibrator Co., 2872 Clinton Ave., Cleveland 13, Ohio.
325/Circle on Reader's Service Coupon

TOOL STEEL — High vanadium (4½%) tool steel is used in liners, die plates, brand plates, regrinding service, liner holders, mold boxes, pads, shims and flat ground tool steel. Alcon Production Tool Co., 579 Baird St., Akron 11, Ohio.
326/Circle on Reader's Service Coupon

PALLET CLEANERS — Besser says their pallet cleaners do not warp or nick pallets. Machine compensates automatically for differences in pallet thickness, gets down to bare steel. Cleans up to 300 pallets per hour. Bulletin 101. Besser Company, Alpena, Michigan.
327/Circle on Reader's Service Coupon

HAMMERMILLS—If you have a crushing problem, American's engineering department will be happy to analyze your reduction trouble, make test runs if necessary, and offer specific recommendations — at no obligation to you. American Pulverizer Co., 1061 Macklind Ave., St. Louis 10, Mo.
328/Circle on Reader's Service Coupon

LOADERS — International's Drott claims to apply hydraulic force to full piston face instead of just the rod-end area, have greater leverage, and ground-based fixed fulcrum. Company says this adds up to heavy duty loader design that "separates the men from the boys." International Harvester Co., Drott Mfg. Corp., Milwaukee 15, Wisc.
329/Circle on Reader's Service Coupon

V-BELTS—Gates claims you can cut sheave width and weight by using their Super Vulco Drives. Company says 5 of their ropes will do the work of 7 standard V-belts; that inner resilient cords give 40% more HP capacity. Gates Rubber Co., Denver, Colo.
330/Circle on Reader's Service Coupon

MAXIMULLER — has revolving pan with screen plates in the pan bottom, with large mullers, widely spaced for greater crushing effect. Bulletin B-53. Clearfield Machine Co., Clearfield, Pa.
331/Circle on Reader's Service Coupon

GLAZE STAINS—New 600 series chrome alumina pinks are said to have been improved for purer colors without "brown spots." Low initial cost and stability to Cone 12 are claimed. The 4000 series consists of zirconium-vanadium yellows, greens, and blues. Vitro Mfg. Co., 60 Greenway Dr., Pittsburgh 4, Pa.
332/Circle on Reader's Service Coupon

TRACTOR SHOVELS—The first Michigan Tractor Shovel Model 75A built is still in operation. The machine has put in 10,000 working hours, moving an average of 60,000 pounds per hour. Repair costs have been $700 for three years. Clark Equipment Co., 2455 Pipestone Rd., Benton Harbor 18, Mich.
333/Circle on Reader's Service Coupon

REAR DUMPS—At a German limestone quarry, two Model C Tournapulls are reported to haul about 180 tons of rock each working hour. Bowl design tends to deflect loading shocks, and load to 85-90% of capacity while box-shaped bodies stopped at 70%. LeTourneau-Westinghouse Co., Peoria, Ill.
334/Circle on Reader's Service Coupon

How to Get Rush Information

If you want further information or literature describing the products in this special feature, just use the handy card you will find on page 18. Our Reader's Service Dept. will see that you obtain the requested information as quickly as possible.

COLORS—Glaze stains in brilliant shades and pastels in a wide color range and stable at high temperature are offered by Drakenfeld. Strong, uniform body or engobe stains for colored bodies for slip application also come in many shades. B. F. Drakenfeld & Co., 45 Park Pl., N.Y.C. 7.
335/Circle on Reader's Service Coupon

HEAT MEASUREMENT — Ball Fire-Chek Keys placed in various parts of the kiln shrink due to the heat, not the atmosphere of kiln, indicating the effect of the temperature on clay. Accurate measurement is possible with Bell's gauge. Bell Research Inc., E. Liverpool, Ohio.
336/Circle on Reader's Service Coupon

POWER CYLINDERS—Over 100 factory trained, experienced engineers are at your service to help you fill your air and hydraulic cylinder needs. Miller Fluid Power Div., Flick-Reedy Corp., 2013 N. Hawthorne Ave., Melrose Park, Ill.
337/Circle on Reader's Service Coupon

SEWER PIPE GLAZES—Pemco offers to take pieces of your dried unfired clay pipe and tailor a glaze for your sewer pipe. Why ceramic glazing? Pemco says it lowers fuel costs, increases refractory life, speeds production, and gives a product with greater sales potential. Pemco Corp., Customer Service Dept., Baltimore 24, Md.
338/Circle on Reader's Service Coupon

SCREEN PLATES — and grate bars by Mallix are made from a specially heat-treated material. Tough, but not brittle, they are said to stand up under severe service without breaking. National Malleable and Steel Casting Co., Cleveland 6, Ohio.
339/Circle on Reader's Service Coupon

HYDRAULIC DRILLS — Parmanco Model HV-172 vertical drill has 65 HP motor, finger-tip control, four-speed auger and Timken bearings. Company says samples can be obtained up to 100 feet deep in minutes. Paris Manufacturing Co., Paris, Ill.
340/Circle on Reader's Service Coupon

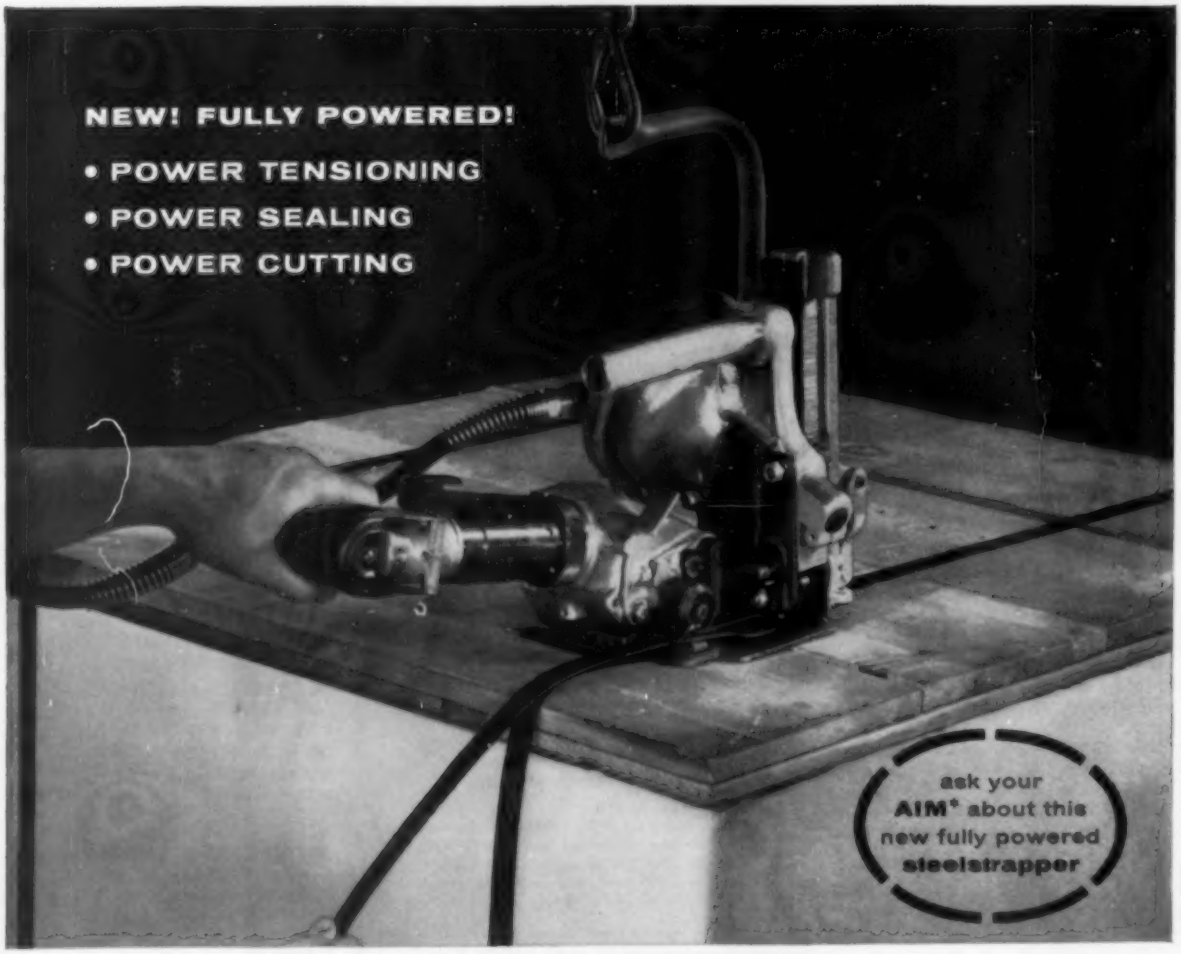
BRICK FORKS—Bickerstaff offers to supply detailed information on the use of Bickerstaff forks for mechanical setting of kilns—without obligation. Bickerstaff, Inc., Columbus, Ga.
341/Circle on Reader's Service Coupon

GLAZED BRICK & TILE—Hommel glaze frits and body, engobe and glaze stains are made to meet all requirements, with wide firing range and stability at high fires. Dept. BCR-757 The O. Hommel Co., Pittsburgh 30, Pa.
342/Circle on Reader's Service Coupon

LIFT TRUCKS—Harbison-Walker Refractories of Pittsburgh has reportedly saved many time-consuming operations with 9 Hyster lift trucks—replacing such hand operations as hauling brick from drying tunnel to kiln, returning empty racks to plant, and delivering bricks for inspection and storage. Hyster Co., Portland Oregon.
343/Circle on Reader's Service Coupon

COMBINED MACHINES—No. 404-A is a medium capacity model that is reported to be capable of pugging, de-airing, and extruding every type of brick, block and tile, all in a single operation. American Clay Machinery Div. of Huber-Warco Co., Marion, Ohio.
344/Circle on Reader's Service Coupon

HAMMERMILLS—Williams claims: finish grinds bank run clay and shale in a single operation—including hard lime particles, iron pebbles, tailing of all kinds. Company says 75% of capital investment is ary crushers, and 50% of production costs. saved by eliminating primary or second- Williams Patent Crusher & Pulverizer Co., 2709 N. Broadway, St. Louis 6, Mo.
345/Circle on Reader's Service Coupon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• POWER SEALING
• POWER CUTTING
ask your AIM* about this new fully powered steelstrapper

Announcing another Acme Steel first...

The new, fully powered A4 Steelstrapper

ACME STEEL COMPANY is first to offer industry a Steelstrapper that tensions, seals and cuts steel strapping automatically . . . all with air power. Called the A4 Pneumatic Steelstrapper, this new tool includes one-hand controls among its many features.

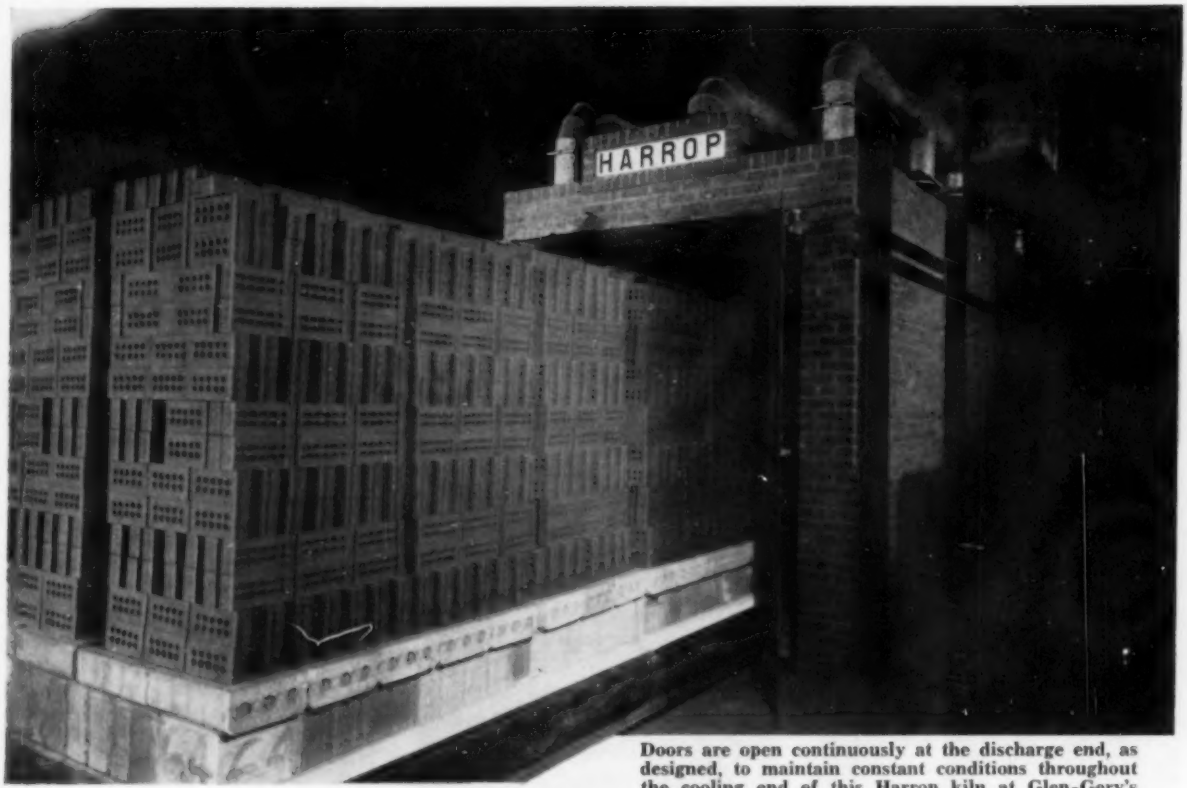
With steel strapping quickly and easily inserted, the operator merely presses a control on the handle to power-tighten strapping to predetermined tension. And then with another power control on the same handle, magazine-fed seals are applied and the steel strapping cut without waste or operator effort.

Your *Acme Idea Man can demonstrate the new A4 Pneumatic Steelstrapper and show you its many time, effort and money saving advantages. The first full-power tool of its kind, the new A4 Steelstrapper will give maximum performance in your steel strapping application.

Contact your Acme Idea Man at the nearest Acme Steel Company office. Or write: Dept. 000-00, Acme Steel Products Division, Acme Steel Company, Chicago 27, Illinois. In Canada, Acme Steel Company of Canada, Ltd., 743 Warden Ave., Toronto 13, Ontario.

Ask your Acme Idea Man, or write, for your free brochure detailing the features of the new fully powered A4 Steelstrapper.

ACME STEEL **STEEL STRAPPING**



Doors are open continuously at the discharge end, as designed, to maintain constant conditions throughout the cooling end of this Harrop kiln at Glen-Gery's York plant.

"We really got a fourth Harrop kiln free"

Design proposals called for a daily output of 109,000 face brick from three Harrop kilns at the Harrisburg, Watsontown and York Colonial plants of Glen-Gery Shale Brick Corporation, Shillington, Pa.

But current daily production from these three kilns runs 140,800 brick.

"That's why we say the 31,800 *extra* brick from our three Harrop kilns really means we got a fourth kiln free," says Gordon E. Lewis, Glen-Gery's Chief Engineer. "And we're maintaining this high production rate with a better than 95% recovery of first-quality brick."

Bonus production and consistent high quality — many a user of a Harrop kiln reports this kind of extra performance. It's the profitable "plus" you can look for when Harrop principals put their more-than-a-century of ceramic engineering experience to work for you.

This result-producing experience is yours for the asking . . . write, wire or phone to arrange a non-obligating consultation on your dryer, kiln or plant design needs.

(above) Air lock and drop door at the charging end are electrically interlocked with the pusher to maintain constant conditions as cars enter the kiln.

(below) Completely automatic draft control of the kiln's main exhaust is provided by this draft instrument and the damper it actuates.

HARROP

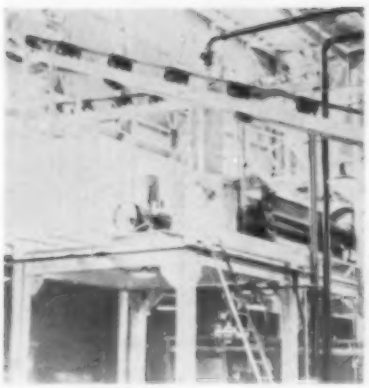
BRITISH ASSOCIATE: British Ceramic Service Co., Ltd., Bricesco House, Stoke-on-Trent, England

BRAZILIAN AGENT: Refratarios y Equipamentos, Industriais "Retia" Ltda., Sao Paulo, Brasil

Harrop Ceramic Service Co.

35 EAST GAY ST., COLUMBUS 15, OHIO

NEW EQUIPMENT



Hydraulic Pipe Press

A series of high-volume hydraulic sewer pipe presses, which operate on a low pressure oil system at approximately 40% of the cost of steam operation, is available from Pearne & Lacy. Specially designed for making large clay pipe, the presses reportedly feature higher clay pressures than usually obtained with standard steam presses, resulting in, P&L says, higher quality and greater production for pipe from 15-inch to the largest sizes required.

Three models are made: 1129, rated at 220-ton capacity with 60" stroke; model 1170, 158 tons; model 1070, with 133-ton capacity. These tonnage figures represent total hydraulic pressure exerted on the clay cylinder.

Pearne & Lacy Machine Co., El Monte, Calif.

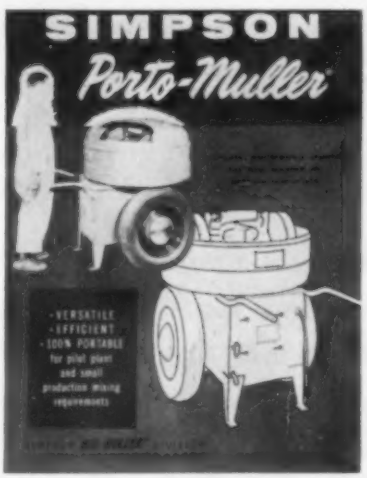
346/Circle on Reader's Service Coupon

Hi-Speed Feeder

The new model F-115 Syntron vibratory feeder was reportedly designed for high capacity feeding of bulk materials in weighing, blending, mixing, etc. The unit features a high speed electromagnetic drive; rheostat control for easy regulation of feed rate from a dribble to maximum capacity of 6 tons per hour; for automatic operations, the F-115 can be equipped with an automatic electronic two-rate-of-feed relay.

Syntron Co., Homer City, Pa.

347/Circle on Reader's Service Coupon



Mix-Muller Bulletin

A new bulletin describes the Simpson Porto-Muller, a portable Mix-Muller. Outlined in the catalog are specifications, application data and general arrangement drawings of the 3 cu. ft. capacity portable Mix-Muller. The unit is designed for use on any dry, wetted or plastic material and is specified by the manufacturer for small production mulling, in pilot plants and laboratory use. Unit comes with dust-tight hood, 3 hp motor and starter and 125 ft. of power cable.

Another new bulletin, "Simpson Mix-Mullers for the Ceramic Industry," is also available, describing the Simpson Mix-Muller and its uses in preparation of structural clay and brick, refractories, etc.

Simpson Mix-Muller Div., National Engineering Co., Chicago 6, Ill.

348/Circle on Reader's Service Coupon

20" Masonry Saw

Target has announced production of a new masonry saw with a standard cutting head that will take 14", 18" or 20" blades. The "Super 20" is reported to cut right through an 8" block in one pass. Now, Target says, a masonry saw user can buy the "Super 20" and use it with 14" blades for cutting brick and tile; later can change to 18" for refractories or stone and then to 20" for block sawing. It is not necessary to change belts or pulleys when switching to a different diameter blade.

Robert G. Evans Co., Kansas City 10, Mo.

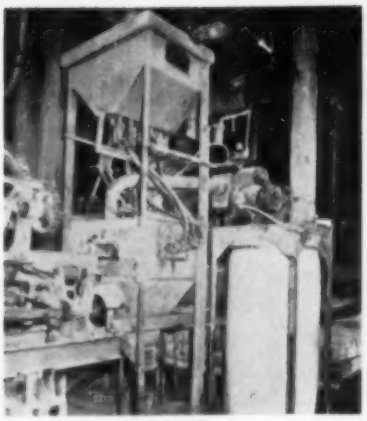
349/Circle on Reader's Service Coupon

New Hand Truck Line

Automatic Transportation has announced addition of a complete line of industrial low-lift hand trucks to their line of equipment. The two types — mechanical and hydraulic — are available in many models with capacities from 1,000 lbs. up to 10,000 lbs.; capable of handling both skid platforms and pallets. All have self-contained pump units.

Automatic Transportation Co., Chicago 20, Ill.

350/Circle on Reader's Service Coupon



Sand Imbedding

Schweitzer has announced development of a new sand imbedding machine for use in the manufacture of sand finished brick. The machine employs sand blasting guns to imbed the sand on three faces of the green brick column. The machine consists of a special rubber-lined sand blasting booth equipped with from 8 to 14 sand blasting guns. The sand supply is kept in a hopper above the booth, with the latter fitting over the column support slide or conveyor just following the cutter.

The machine is self-contained; excess sand is collected and returned to the hopper.

Schweitzer Equipment Co., Cleveland 9, Ohio.

351/Circle on Reader's Service Coupon

Flo-Set Valves

Hanna has announced a new hydraulic speed control valve, called the Flo-Set 1000, rated for 1000 psi hydraulic operation and made in ¼, ⅜, ½ and ¾-inch sizes. The valve is used to control the piston speeds of hydraulic cylinders and for the control of speed of other hydraulically-operated devices. When used with cylinders, these valves allow the instroke and outstroke speeds to be regulated separately.

Hanna Engineering Works.

352/Circle on Reader's Service Coupon

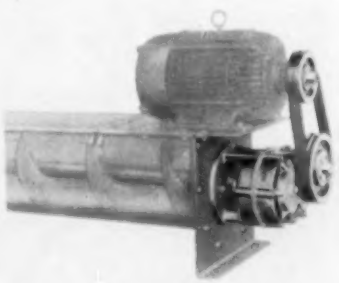
Tractor-Loader

A new 4-wheel drive, rear wheel steer tractor loader, said to incorporate major advancements in operating and safety features, is being made in

the 1¾ cu. yd. class. The new unit, the W-9 Terraloader, is available with three interchangeable buckets: a 1⅜ cu. yd. heavy duty digging bucket; a 1¾ standard bucket; a 2¾ light material bucket.

J. I. Case Co., Racine, Wis.

353/Circle on Reader's Service Coupon



Screw Conveyor Drive

A new screw conveyor drive that is reported to be simple to mount and adjust on standard conveyor troughs is a new addition to the Dodge line. The unit consists of a speed reducer with packing gland and driving shaft which mounts on the trough end. Trough ends are also offered in sizes to fit most standard conveyors. Timken bearings are used throughout the drive to provide ample thrust and radial capacity.

Dodge Mfg. Co., Mishawaka, Ind.

354/Circle on Reader's Service Coupon

Space Saver Line

A new line of 6,000-7,000-8,000-pound capacity lift trucks has been released by Hyster. The measurements of the average male were used to locate and design all control levers and arrangements so as to lessen operator fatigue and increase truck performance. The new line is available with Hyster Power Shift Hystamatic transmission with Feather Touch Control as optional equipment. Short truck length, combined with long wheelbase, provides good weight distribution for better traction and steering.

Hyster Co., Portland, Oreg.

355/Circle on Reader's Service Coupon

For complete information check items at right and mail coupon to:

Reader's Service
Brick & Clay Record
5 So. Wabash Ave.
Chicago 3, Ill.

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309—W. S. Tyler
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311—Bonnot Co.
312—R. G. Varner
313—Builders Equipment Co.
314—Sherwin-Williams
315—Kwik-Mix Co.
316—Deister Concentrator
317—Des Moines Glove
318—National Paint, Manganese
319—Chase Foundry
320—Dur-O-wal
321—C. & G. Potts
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324—Dwight B. Hendryx
325—Cleveland Vibrator
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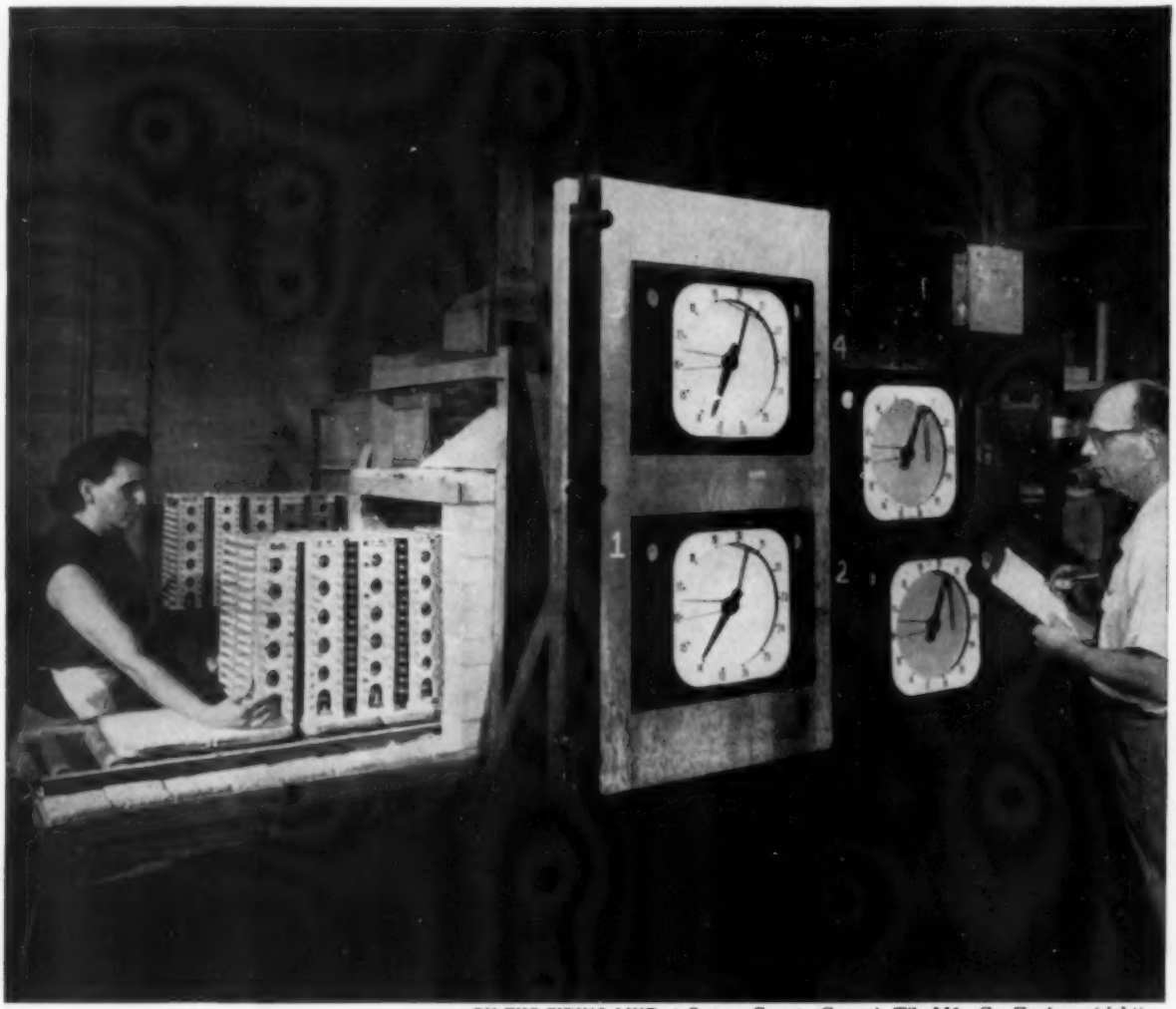
348—Simpson Mix-Muller
349—Robert G. Evans
350—Automatic Transportation
351—Schweitzer Equip.
352—Hanna Engineering
353—J. I. Case
354—Dodge Mfg.
355—Hyster Co.
356—Chisolm, Boyd & White
357—Kimberly-Clark
358—Signode Steel
359—Koehring Co.
360—International Harvester
361—Dodge Mfg.

NAME ..... TITLE .....

COMPANY .....

STREET ..... CITY ..... STATE .....



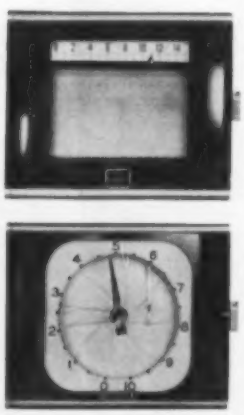
ON THE FIRING LINE at Orange County Ceramic Tile Mfg. Co. Engineer (right) checks settings on Bristol Dynamaster* Controllers as tiles are loaded on conveyor.

Fine tiles fired to a turn with precise Bristol control uniform in SIZE...COLOR...TEXTURE...STRENGTH

Strip-chart model

BRISTOL DYNAMASTER* ELECTRONIC PYROMETER CONTROLLERS

Round-chart model



That's the report from Orange County Ceramic Tile Manufacturing Company, Huntington Beach, Cal., makers of the brilliant SUNSET tile line for home and industry.

Their six Bristol round-chart Dynamaster* Electronic Instruments give accurate automatic temperature control in every phase of tile firing. The result is an exceptionally uniform product, from the size and trueness of the bisque to the exact matching of color shades in the finished glaze. What's more, automatic temperature control has reduced the need for skilled production-line supervision—freeing these men for other duties.

Are your furnace controls obsolete? Recent Bristol developments in automatic temperature control have made many instruments obsolete which are only a few years old. Find out about exclusive Bristol control features like continuous standardization for your furnace, dryer, oven or kiln. It does away with dry batteries and completely eliminates loss of time for standardizing instruments. Write: The Bristol Company, 170 Bristol Road, Waterbury 20, Conn. 7.28

*T.M. Reg. U.S. Pat. Off.

BRISTOL *TRAIL-BLAZERS IN PROCESS AUTOMATION*

AUTOMATIC CONTROLLING, RECORDING AND TELEMETERING INSTRUMENTS

NEW CASE® W-9 TERRALOAD'R

revolutionizes wheel-loader performance ...saves you up to $2000 in first cost!

Here, at last, is a big-capacity *four-wheel* drive industrial loader that gives you all the advanced performance features you've wanted — at savings up to $2000.

With the new Case W-9 Terraload'r you get *much better balance and stability* than with any competitive rig. This, combined with rear-wheel power-steer, enables you to dig, maneuver and dump bigger payloads *faster, easier, more safely*. Short, rigid lift-arms, pivoted *ahead* of operator's compartment, provide *unobstructed visibility*, eliminate hazard of catching operator's arm.

High-torque Case gasoline or diesel engine, with Torqmatic drive, assures ample power — PLUS *maximum fuel economy* and long life. You also get 3 speed ranges — from 0 to 21 MPH — with *full power-shift* in all speeds, as well as forward and reverse. Choice of 3 bucket sizes — 1⅜, 1¾ or 2¾ cu. yd. — with 40° tip-back, *11,000 lbs. breakout* and 5,500 lbs. carrying capacity.

Call your Case Industrial Dealer for prices and specifications, plus details of new Case financing and LEASE plans, which can be tailored to fit your needs!

Industrial wheel and crawler tractors • dozers • loaders • backhoes • fork lifts

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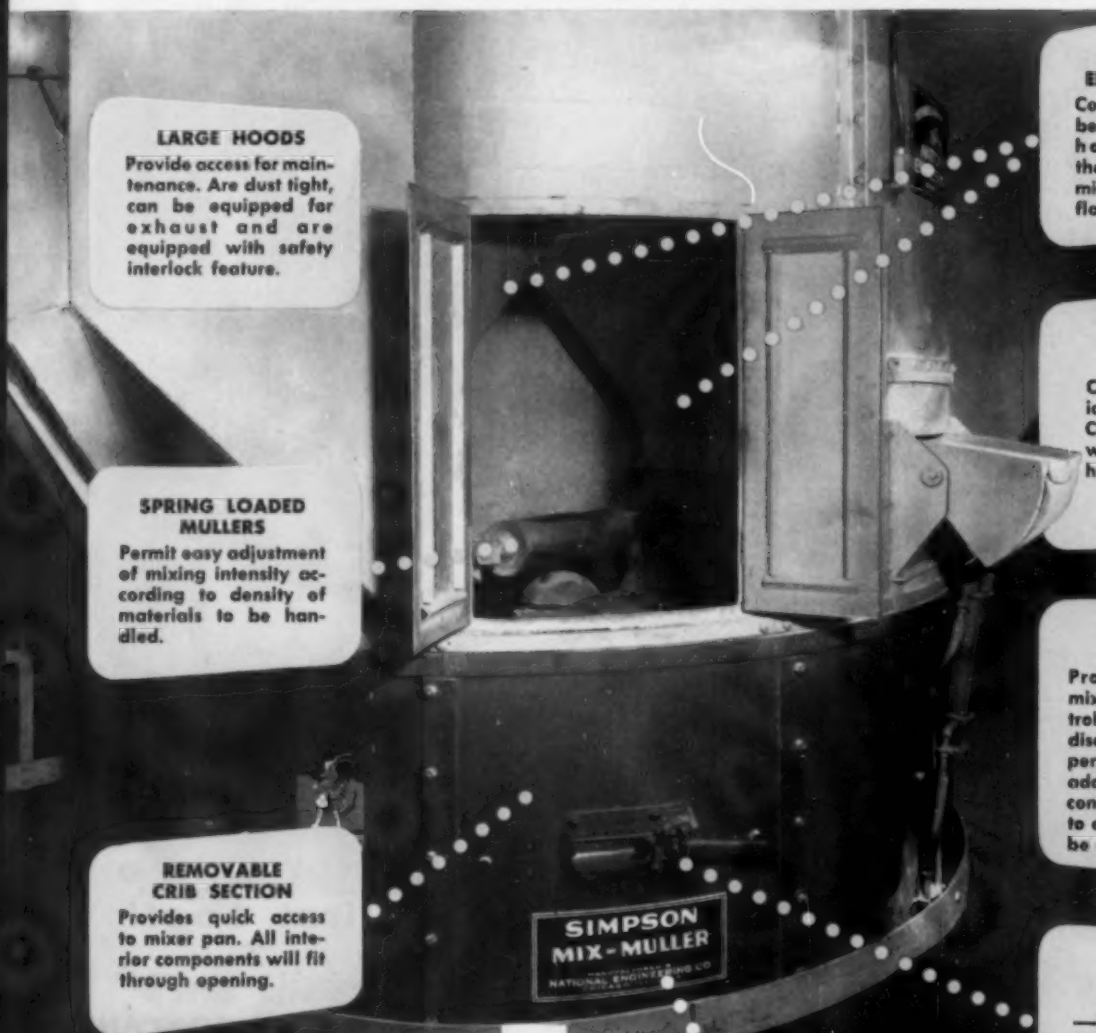
1st in Quality for over 100 years

Why Engineers prefer Simpson MIX-MULLER®



LARGE HOODS
Provide access for maintenance. Are dust tight, can be equipped for exhaust and are equipped with safety interlock feature.

SPRING LOADED MULLERS
Permit easy adjustment of mixing intensity according to density of materials to be handled.

REMOVABLE CRIB SECTION
Provides quick access to mixer pan. All interior components will fit through opening.

BOTTOM DISCHARGE
Plows clear pan quickly, thoroughly—*automatically* through bottom door. Discharge to belt, elevator, hopper screen, etc., is easily arranged.

HOOD CAN ENCLOSE HOPPERS
Compenents of mix can be held ready in batch hoppers. You get the quality of a batch mix, on a continuous-flow basis.

ADDITIONS HOPPER
Can be air or mechanically operated.
Can be located anywhere on periphery of hood.

TIME MASTER® CONTROLS
Provide push button mixing operation. Control of mixer charge, discharge, batch hoppers, water and other additions as well as control of material flow to and from mixer, can be automatic.

MATERIAL SAMPLER
—is safe, positive and externally mounted at position of users choice.

THE SERVICES OF NATIONAL

. . . Engineering Company stand behind every Simpson Mix-Muller produced. By taking advantage of these services you get the benefit of 40 years of practical experience in the integration of mixing equipment. Complete design and engineering facilities for materials handling equipment, raw materials storage, etc., are included in the National service. This single responsibility through design, manufacture and installation will assure you of top mixing performance . . . from a properly integrated mixing plant.

Write for the new bulletin on mulling.

C576

SIMPSON MIX-MULLER® DIVISION

National Engineering Company

Machinery Hall Building • Chicago, Illinois

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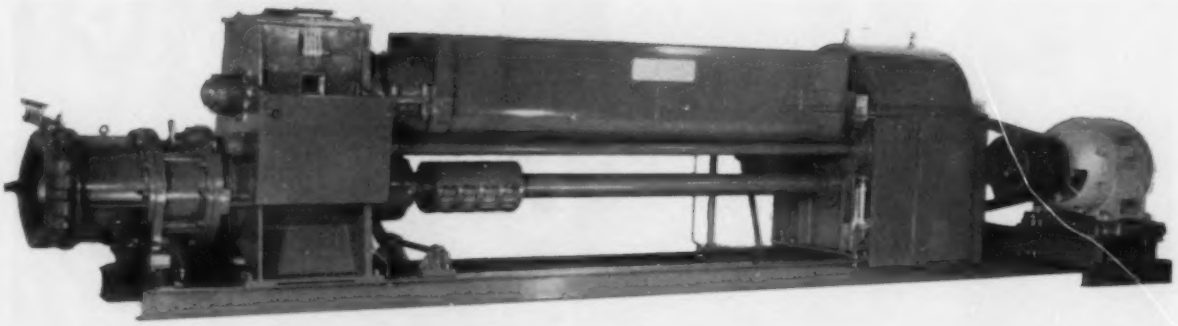
TEAM THESE CHAMBERS PRODUCERS *To Make*



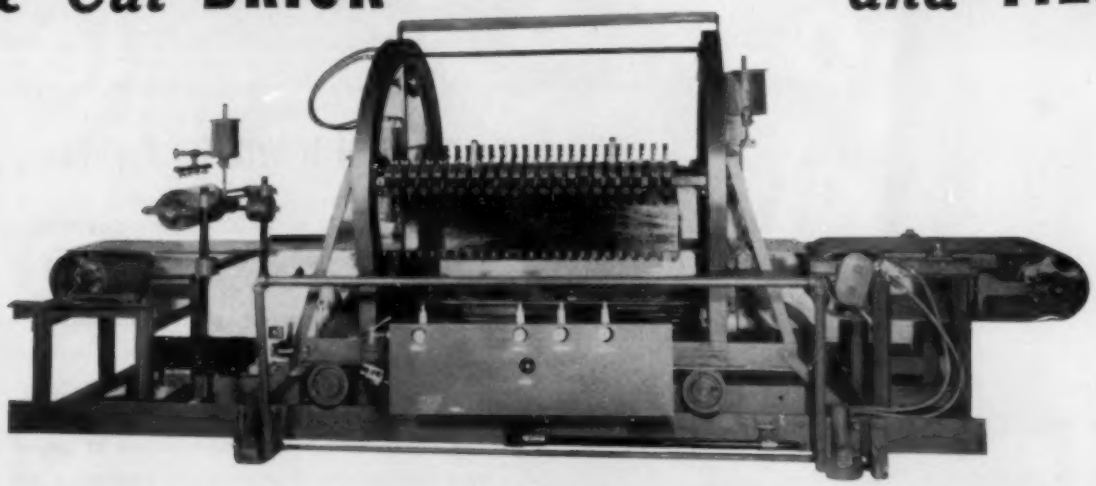
↑ ***New No. 12 AC BRICK MACHINE***

Hi-Power model, up to 300 HP, combines all-steel construction and generous use of alloy materials to match today's brick and hollow tile standards with safety factors provided for tomorrow's more exacting extrusion problems. 18¾" auger, fed by 21" augers in vacuum case; 12' pug mill tub.

↓ ***No. 30 Series CUTTER***

Four models of the #30 series, each available in length up to 5 12-in. cuts, are becoming nationally recognized as providing either maximum accuracy or high-speed bar cutting beyond the range of other machines. Quick-change platen assemblies and conveyor tailored to your exact requirements.

& Cut BRICK *and* TILE



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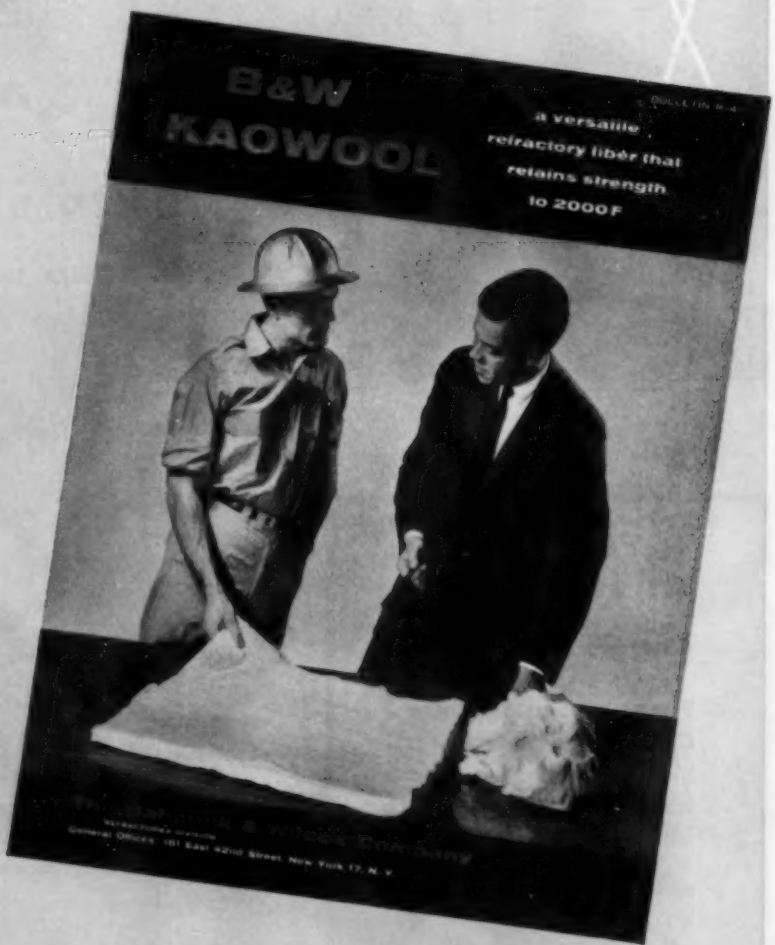
New Bulletin on

B&W KAOWOOL

Gives data on many uses of 2000 F refractory ceramic fiber

B&W Kaowool, the 2000 F ceramic fiber, is now giving long economical service in ceramic applications. For example, B&W Kaowool is used for expansion joints in car tops, as well as for roof and wall sections of ceramic kilns. Write for new bulletin giving helpful data on B&W Kaowool, the easy-to-apply ceramic fiber that withstands temperatures to 2000 F.



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B&W Alimul Firebrick • B&W 80 Firebrick • B&W Junior Firebrick • B&W Insulating Firebrick • B&W Refractory Castables, Plastics and Mortars • B&W Silicon Carbide • B&W Ramming Mixes • B&W Kaowool

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The "Buffalo" Type "CR" Fan is the choice of many engineers for punishing service under high volume and pressure conditions.

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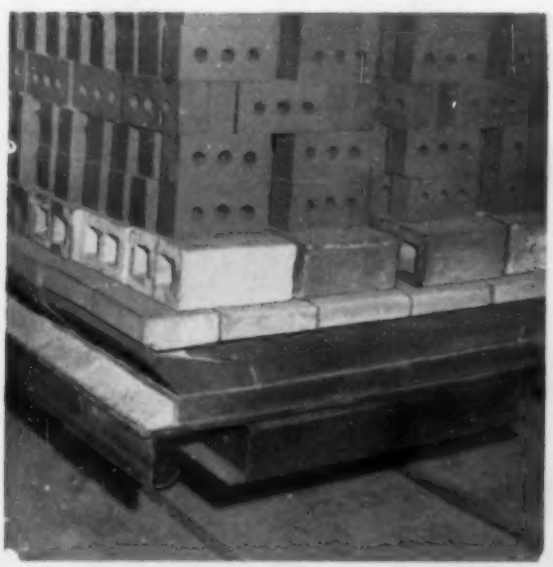

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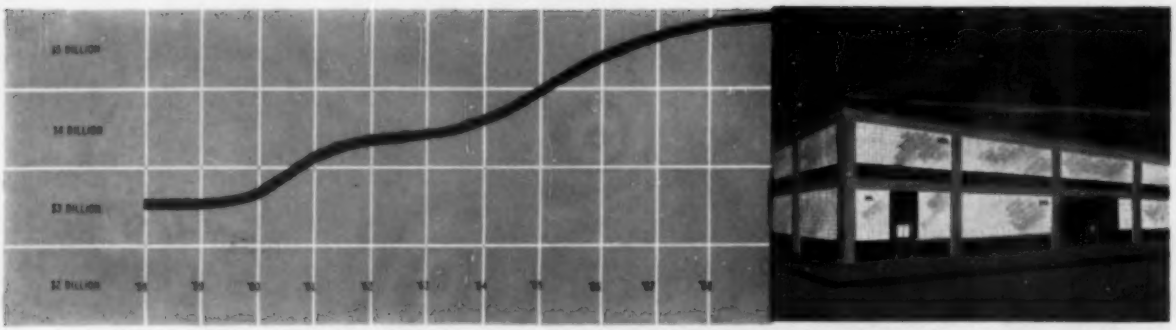

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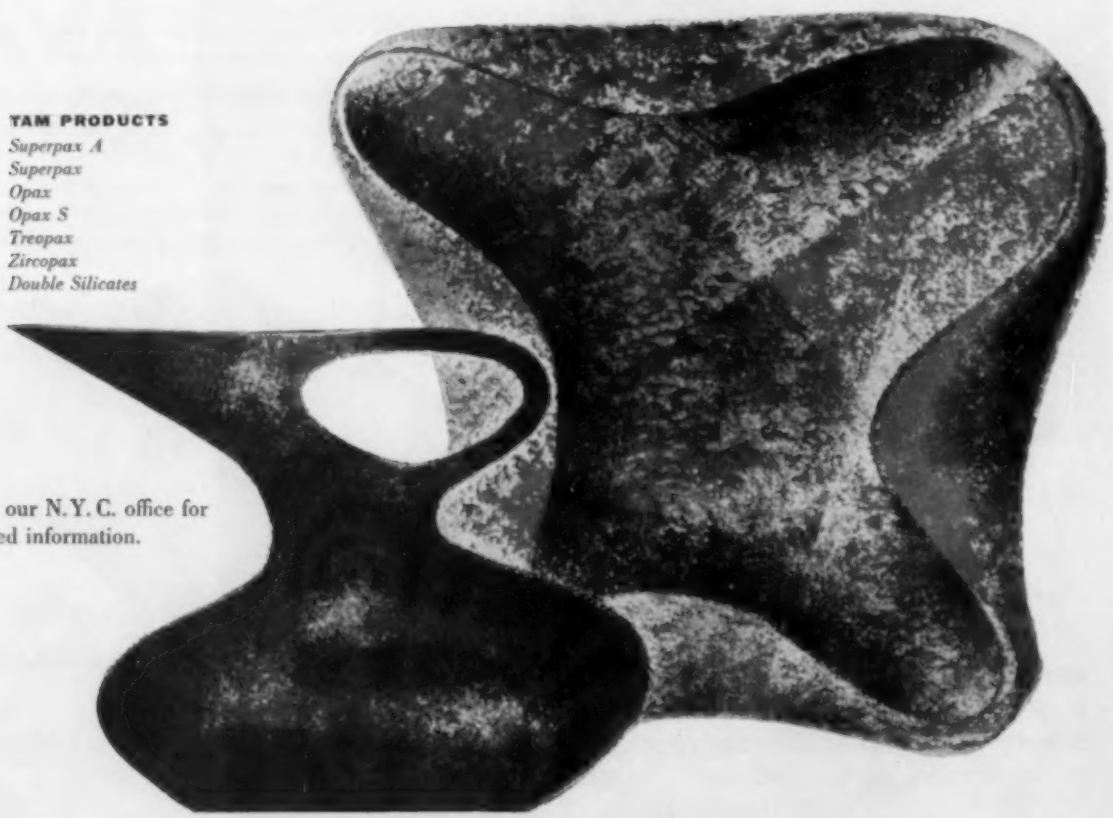

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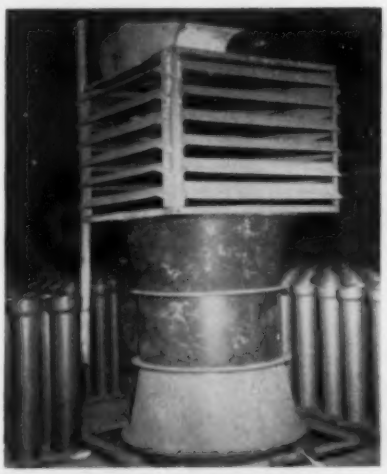
Clay Pipe Drying!

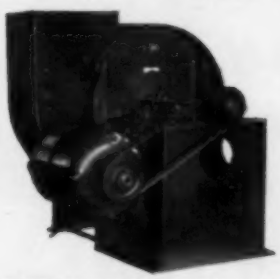
Clay pipe can be dried fast if humidity, temperature and air movement are accurately controlled. Each clay has its own peculiar or individual characteristics which govern the reaction to the drying process.

Our engineers follow the practice of studying the characteristics of a clay; then design the new dryer or re-vamp an existing dryer, to do a fast, economical job.

"It will pay you to place your pipe drying problems in the hands of Robinson Engineers. They have had years of practical experience and specialized training in meeting the demands of exacting drying problems."



"One of a group of Robinson Special Tube-axial Recirculating Fans in a 'Controlled Humidity Dryer'."



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In addition to producing economical, efficient results on all types of Ceramic Ware Driers - Robinson Fans and Engineering knowledge have proven their superiority in every division of the Clay Product Industry.

Tunnel Kilns - Recirculating, Exhaust and Cooling System Fans

Periodic Kilns - Forced Draft, "Hi-Draft" (Induced Draft)

Dust Exhaust

Kiln Cooling

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SEND US A DESCRIPTION OF YOUR FAN PROBLEMS

SEE OUR CATALOG IN Ceramic data book Page 283

STRENGTH AND QUALITY

ROBINSON VENTILATING CO.

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Steam supply line runs the full length of 9 kilns, with a Honeywell valve controlling the steam supply to each kiln. Brown thermometer-controllers operate these valves to regulate kiln temperature. ▶

Steam use and curing time reduced 40% for concrete blocks

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The thermometer-controllers allow the proper amount of steam to enter the kilns in order to maintain curing temperature. Steam consumption has been cut almost in half. Curing time is now three hours instead of five. With the close temperature control provided by the instruments and sealing of the kilns, an ideal curing temperature of 180°F. is maintained. This precise temperature regulation has cut culls to a new minimum.

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70 MILLION BRICKS A YEAR

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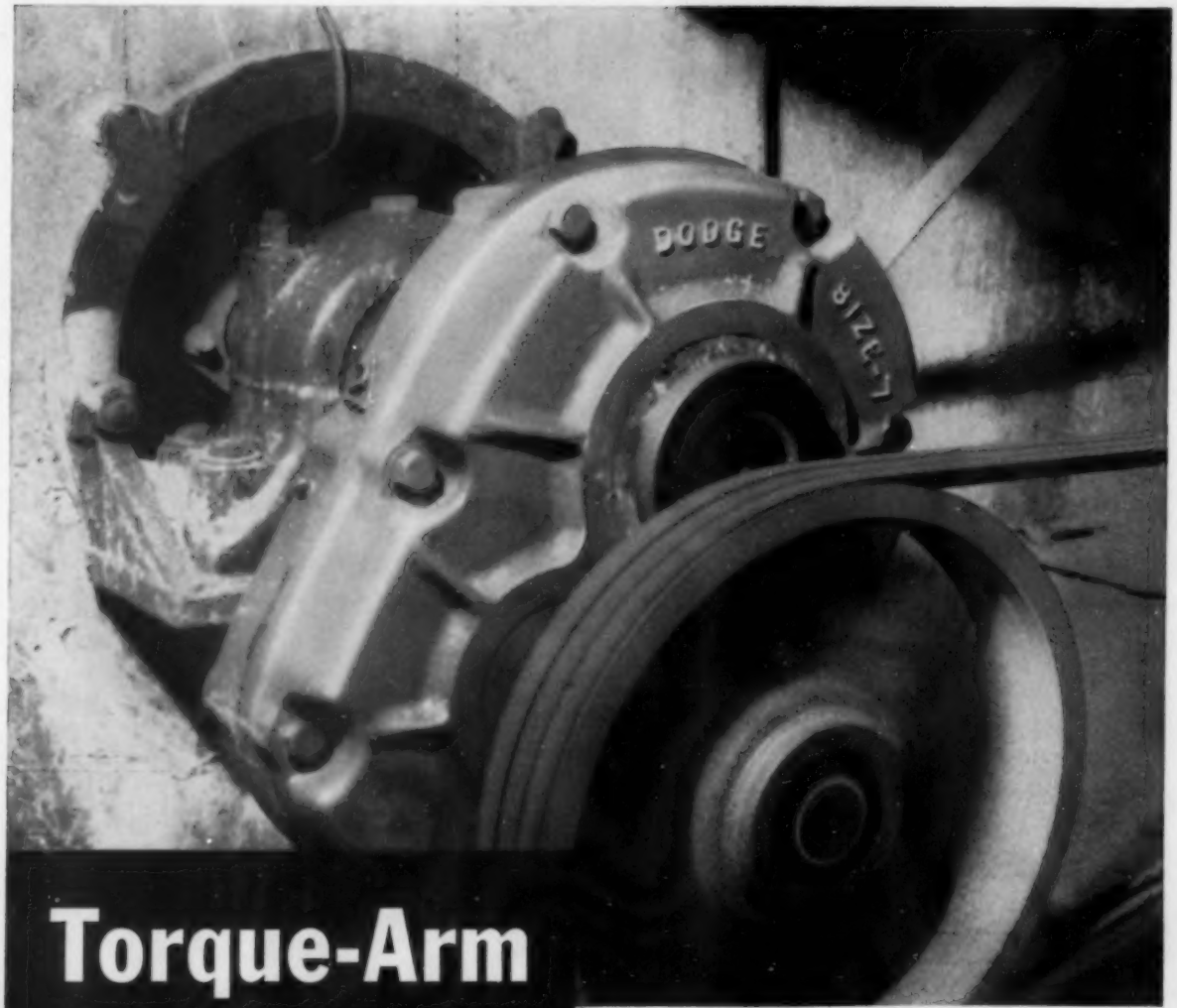
A Division of Universal Marion Corporation



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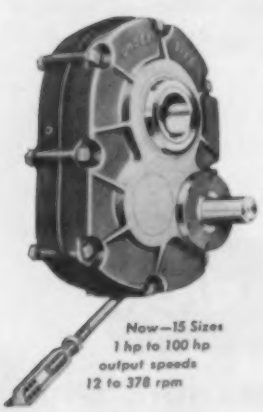
SHAFT-MOUNTED SPEED REDUCERS

Save Up to 1/3 in Installation —Deliver 97% Efficiency!



New—15 Sizes
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output speeds
12 to 378 rpm

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Brick & Clay Record

February, 1958 Vol. 132, No. 2

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BRICK AND CLAY RECORD is indexed by Engineering Index, Inc.

SELL THEM WHAT THEY WANT

Many brick and tile manufacturers are not giving their customers what they want—and consequently are losing out as suppliers. The customer will go along with a dictated line of product only as long as it's difficult to get what he wants.

Today, for instance, the architect is looking for panels, and with many colors available. Colors are available in our industry but they're not yet commonly distributed. Another difficulty is that the availability of color, and the range of color available today in brick has not been well enough publicized. Not enough architects and builders are fully aware of the wide range of colors and textures now being made. Panels are scarce items in our industry, being presently available only on the West Coast. The architect wants panels and colors—so he's getting them where he can, from products other than clay products.

This doesn't mean that his taste for panels can't change. Next year he may want something else but this year he wants colored panels. In fact, we know that certain architects are already looking beyond the day of the panel, but that's another story.

When the customer wants something, he wants it regardless of the price. Again, present panels are good examples because they cost two to five times as much as brick and tile would.

The trends in construction should dictate what industry makes. Each manufacturer and the industry as a whole should be very sensitive to trend changes so that no business is lost. Generally, the trend is new, challenging and exciting to the architect and builder and thereby more appealing to them.

Making a good, solid, dependable building material is not enough in today's market—doing that is routine, unexciting in some ways. Making what the customer wants will supply the bulk of business today, just as it did yesterday and will tomorrow.

The Editors

NEWS OF THE INDUSTRY

Hydraulic Press Buys Midwest Aggregates

The plant and all the assets of Midwest Aggregates, Inc., Brooklyn, Ind., has been acquired by the Hydraulic Press Brick Co., St. Louis, according to an announcement by L. S. Meyer, president of the latter firm.

The Brooklyn plant manufactures lightweight aggregate. Acquisition of these facilities will increase Hydraulic's Haydite production some 70%, giving them production of a half million cubic yards annually.

In addition to the three Haydite plants located at East St. Louis, Ill., Cleveland, Ohio, and Brooklyn, Hydraulic operates six brick plants in the Midwest.

Hydraulic's Haydite sales in 1957 topped all previous records, the report says, with the acquisition of the Midwest plant expected to greatly enlarge the company's scope of operations in this field.

Miss-La Assoc. To Hold June Meeting

W. D. Ramey, executive secretary, has announced that the Mississippi-Louisiana Brick & Tile Mfr's. Assoc. will hold their annual meeting June 5-7 at the Edgewater Gulf Hotel in Edgewater Park, Miss. This hotel is located between Gulfport and Biloxi.

Construction Begins On $1.5 Million Hamel LW Plant

Construction has begun on a new $1.5 million lightweight aggregate plant near Hamel, Minn. Aglite Corp. of America is building the plant for North Central Lightweight Aggregate Co., a newly-formed Minneapolis firm.

The new plant will be located on a 300 acre site, using the Leftwich process in manufacturing. Plant capacity will be about 750 yards daily, according to W. D. Heney, executive vice president. Construction should be completed by May. Buildings will include a main sintering plant, clay grinding house, raw clay shed and one-story office building.

Gladding, McBean Reports Record Sales, Earnings for 1957

Gladding, McBean & Co. achieved the highest net sales and earnings in its 82-year history during 1957, it was announced by C. W. Planje, president. According to unaudited figures, net sales for the year ended December 31, 1957, totaled $35,155,000 or 5 per cent greater than the $33,524,000 reported for the previous record year of 1956.

Earnings for the year 1957 amounted to $3,422,000 or $2.16 per share compared with $3,353,000 or $2.12 per share in 1956 based on 1,583,960 shares outstanding as of December 31, 1957.

Based on the shares outstanding at year end, cash dividends paid by Gladding, McBean & Co. during 1957 totaled $0.90 per share. This compares with dividends of $0.58 per share paid in 1956. In October, the company increased its quarterly dividend to $0.25 per share from $0.17½ per share after adjusting for the 2-for-1 split in the capital stock in July.

Dickey Dividend

Directors of the W. S. Dickey Clay Mfg. Co., Kansas City, recently declared the regular quarterly dividend of 35¢ a share, payable Feb. 10. All directors were re-elected at the annual stockholders' meeting.

Caddo Clay Buys Ark-La-Tex Brick

Caddo Clay Products, of Louisiana, has purchased the manufacturing plant of the Ark-La-Tex Brick Co., near Mooringsport, La. The Caddo firm was recently organized.

At about the same time, announcement was made of plans for a $100,000 expansion and improvement program at the plant. Jack Ware, superintendent and vice president for Caddo, said the expansion project will up the plant's output from 750,000 to 1.5 million brick monthly.

Caddo had owned the plant until it was sold in 1951. The plant was reopened in the Fall after having been shut down for about a year. Purchase price was reported to total $225,000. H. D. Lewis is Caddo president; R. S. Allday is executive vice president and general manager.

As part of the expansion, if demand permits, the plant plans to add pottery, tile and other products to their line.

Southwest Brick Opens New Plant at DeLeon

Southwest Brick Co. has begun production in its modern new brick manufacturing plant at DeLeon, Tex. The plant expects to double its present production of 90,000 daily by 1959, the report said. The firm employs 16, with 10,000 sq. ft. of plant space.

A. P. Green Dividend

At its meeting on January 16, the board of directors of A. P. Green Fire Brick Co. declared the regular quarterly dividend of 25¢ payable Feb. 20.

Valentine Opens $1.5 Million Plant

The Valentine Division of the A. P. Green Fire Brick Company announced the formal opening of its new, ultra-modern semi-silica firebrick plant at Woodbridge, New Jersey. An Open House was held in January as company officials introduced the $1,500,000 operation.

The new plant, which covers 18 acres and employs 150 people, was constructed to replace the old Valentine plant that was almost completely destroyed by fire in October 1956.

NEWS OF THE INDUSTRY

Havey Re-Elected by St. Louis UMA

Leo F. Havey has been re-elected president of the Unit Masonry Assn. of St. Louis, Mo. Other officers elected were Bernard J. Loftus, vice-president; C. T. Richards, secretary, and Richard J. DeWalle, treasurer.

Dallas LW Income Up $20,000

Dallas (Tex.) Lightweight Aggregate Co. has reported a net income of $61,220 for the six month period ending Nov. 30, as compared with $42,561 for the similar period in 1956.

The firm is a subsidiary of Texas Industries, Inc.

Sallie J. Palmer Dies

Mrs. Sallie J. Palmer, wife of John M. Palmer, sales manager of Lee Clay Products Co. of Clearfield, Ky., died Jan. 29 after three years illness. Her husband is a past president of the NCPMI.

The funeral was held Feb. 1 at Morehead, Ky., with burial at Arlington National Cemetery, Arlington, Va.

Mrs. Palmer had suffered from Parkinson's disease for the past three years.

Harbison-Walker Sales Set Record in 1957

A new high in sales, some $105 million, was reached by Harbison-Walker Refractories Co., Pittsburgh. Comparable 1956 sales were $94 million.

Two new plants went into operation; one, a rotary kiln at Ludington, Mich., and the other a basic refractories tunnel kiln plant at Hammond, Ind. According to the report, the company spent $12 million during 1957 on new plants, expansion and improvements. During the year the company also started work on the new integrated Garber Research Center on a 21 acre site. The new research facilities will be a $1.5 million project when completed.

Troutman Named Vice President Of General Refractories

Ward M. Troutman, Pittsburgh district sales manager for the General Refractories Co., has been named vice-president of the company. His office will remain in Pittsburgh.

Troutman joined General Refractories Co. in 1947 as a member of the Pittsburgh district sales force. He was named assistant district sales manager in June 1953 and promoted to district sales manager in January 1954. Prior to coming with GREFCO, he was employed in the sales department of the Haws Refractories Co. from 1938 until 1947, interrupted only by two years of naval service.

Maintenance Shop Burns at Higgins Brick

A maintenance shop building was totally destroyed, at a cost of $15,000, by fire on January 29 at the Higgins Brick Co., Torrance, Calif.

Destroyed by the fire were a fork lift truck, wheels, tires, auto parts and similar equipment. Cause of the fire was undetermined.

Amvit Earnings At All-Time High

Despite a siege of bad weather during the first part of the year which hampered construction work, American Vitrified Products Co., Cleveland, Ohio, reported sales and earnings had reached all-time highs during 1957, E. L. Miller, president, reported to stockholders.

To meet the continued demand for their major products, the company's expansion program, now in its third year, continues. Two new clay plants, formerly operated by the LaClede-Christy Co., a division of the H. K. Porter Co., have been acquired.

"These plants are located in Whitehall, Ill., and will permit the company to serve a large part of the country previously out of reach because of restrictive freight rates," Miller said.

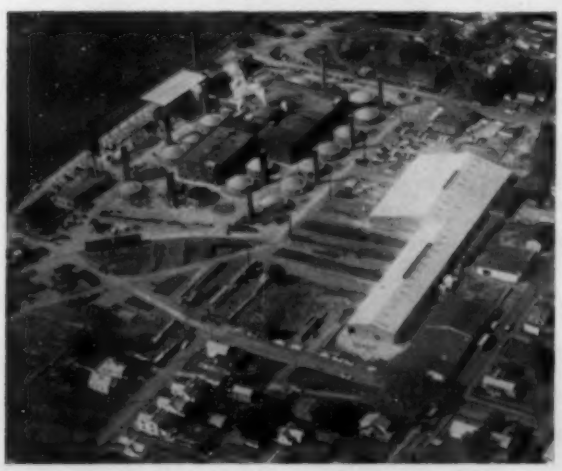
Company sales for the fiscal year 1957 were $10,800,656 as compared to $10,148,744 for 1956. Net income for the year amounted to $3.87 per shade on 168,743 shares outstanding, compared with $3.75 a share on 159,429 shares outstanding the preceding year.

During the year, four extra quarterly dividends of $0.30 per share were paid. On December 3, 1957, an extra stock dividend of 4 per cent, or one share for every 25 shares held was declared.

Fred Cunningham Dies

Fred Cunningham, 81, former co-owner of the Adams Clay Products Co. at Martinsville, Ind., died Jan. 17. He had been a partner in the operation with the late James Cunningham.

New Logan Clay Plant



Above is an aerial view of the nearly-completed Logan Clay Products Co. plant. The million dollar facility, at Logan, Ohio, has a 480' x 70' main building; a 200' x 90' wing; and total area of 52,000 sq. ft.

New Tunnel At Freeport

Tunnel kiln construction is well underway at the Freeport (Pa.) Brick Co. plant; a 420' Allied tunnel kiln is being put in with a new building (shown above) erected by Kaiser Aluminum. The exterior includes brick and aluminum; reflectance of the aluminum plus skylights will mean a high light level. Chambers forming equipment is being installed with present plans calling for completion of construction by early summer.

NEWS OF THE INDUSTRY

TRI Factory Operator Meeting March 6-7

Avery Newton, executive secretary, has announced that the annual Factory Operator Meeting will be at the Roosevelt Hotel in Pittsburgh, Pa., on March 6 and 7.

Carey E. Lindsay, general manager of the Niles Fire Brick Div. of Mexico Refractories Co., will be the chairman. A. M. Swank, president of Hiram Swank's Sons will give the address of welcome.

The program will include talks, panel discussions and a plant tour of the Swank's plant at Large, Pa.

Plunkett to Retire; Named TRI Honorary Member

Herbert B. Plunkett, who is retiring as executive vice president of A. P. Green Fire Brick Co. on March 1, was recently elected an Honorary Associate Member of The Refractories Institute, at a meeting of the TRI board.

At the same meeting, the following committee appointments were made by the TRI board: Edgar Platt, of H. K. Porter, Factory Operations Committee; James P. Raugh, of Porter, to Labor Relations Committee; A. R. Barnett, of A. P. Green, to Percentage Depletion Committee; and W. A. Turner, of Porter, as chairman of the Mellon Institute Committee.

Kendrick Plant Hit by $50,000 Fire

One of the two units of Kendrick Brick & Tile, Monroe, N. C., was heavily damaged by a fire in mid-January. Damage was estimated at that time as being from $50,000 to $75,000.

The plant destroyed was the older of the two units. W. C. Kendrick, general manager, said the first flames were seen near an electric motor operating a drying fan.

Kendrick also has a third plant in Mount Holly.

Basic Inc. Makes Sales Staff Changes

H. N. Barrett, Jr., vice-president of Basic, Inc., has announced several personnel changes in the company's industrial sales division.

Thomas R. Lally, formerly in the Philadelphia sales office, has been appointed manager of the eastern sales district with offices in Pittsburgh, replacing D. B. Baxter, who has resigned to join Globe Fire Brick Co.

G. B. (Pete) Edwards has been appointed manager of a newly formed sales district embracing the Detroit-Buffalo-Hamilton and Sharon-Youngstown-Warren areas.

In Cleveland, C. A. Greenlee has been assigned to sales development under the direction of J. P. Holt, assistant to Barrett, with W. G. Winters taking over Greenlee's former duties as sales engineer under C. R. Heilig, manager of the central sales district.

D. M. Flynn has joined Basic's industrial division, assigned to the midwest sales district under T. P. Stanton, manager.

Bussen Named Manager for Amvit-St. Louis

William E. Bussen has been appointed St. Louis District Manager for the American Vitrified Products Co., J. L. Brown, Vice President and General Sales Manager, announced.

In 1929, Bussen joined Laclede-Christy as a salesman in the Vitrified Division in St. Louis. Over the last years, Bussen has been the Sales Manager, Vitrified Division, of Laclede-Christy Division, St. Louis, of the H. K. Porter Company.

"Mr. Bussen's new position will be to direct sales and service development to this new clay pipe market of the Midwest for American Vitrified," E. L. Miller, President of American Vitrified Products Co., said.

Ralph Martin Retires

After completing over 53 years of service with the W. S. Dickey Clay Manufacturing Co., Ralph Martin, 70-year-old manager of the Kansas and Missouri sales area, retired on December 31, 1957.

Thus, Martin brings to a close a business career that began in 1904, when, only a year after arriving from Ireland, he started as an office boy with the Dickey company. After working as a file clerk and on the order desk, he was promoted to the sales desk of the vitrified clay sewer pipe manufacturer in 1912.

ACS Southeast to Meet in Birmingham March 28-29

The Southeastern section of the ACS will hold their next meeting in Birmingham, Ala., March 28-29, according to an announcement by W. C. Gibbs, chairman of the local Arrangements Committee. Further details will be announced later.

Trisler Named In Sales for Carlisle B&T

L. E. (Lou) Trisler has been appointed sales engineer for the Carlisle (Iowa) Brick & Tile Co. Trisler formerly was a manufacturers' representative in Iowa and Nebraska.

Elliot Elected Porter Vice President

Fred W. Elliott has been elected a vice president of the H. K. Porter Co., Inc. He previously had been assistant to th president, C. L. Holbert.

Porter Refractories Names Williams, Wiley

Dan D. Williams has been appointed assistant general sales manager, and Curt K. Wiley named Pittsburgh district sales manager, Refractories Division, H. K. Porter Co., Inc., according to an announcement by Alan R. Eakins, general sales manager of the division.

Williams was previously with E. J. Lavino & Co. in various sales positions since 1950. He is experienced in the technical sale and service of basic refractories used in the steel, copper, cement and glass industries.

A graduate of Princeton University, Williams was employed as a sales engineer for Bonney Forge & Tool Works, Allentown, Pa., from 1948 to 1950. He is a member of the University Club of Pittsburgh, A.I.M.E. and other professional organizations.

Wiley

Williams

Wiley was formerly president of the Gem Clay Forming Co., Sebring, O. He served in the U. S. Naval Reserve as a lieutenant commander in World War II. He was graduated from Mt. Union College with a B.A. degree and from Western Reserve University School of Law with an LL.B. degree.

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MILLER "Accelerated" Kiln Cars

MILLER KILN CARS WITH TIMKEN TAPERED BEARINGS PROVIDE:

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Whatever your kiln car needs, regardless of who made your tunnel kiln, Miller can furnish any type Kiln or dryer car according to your specifications. And, with Timken Tapered Roller Bearings, you get years of smooth, anti-friction performance.

Easily moved by one man, when fully loaded, Miller built Kiln cars have "accelerated" maneuverability . . . really measure up to your demands.

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PERSONALS

William F. Watts has been appointed factory manager of the Refractories Division of Norton Co. He was formerly factory superintendent of the division.

The Expanded Shale Clay & Slate Institute has changed its offices from 658 Warner Bldg., Washington, D. C., to National Press Bldg., Washington 4, D. C.

Emile R. Tabb Jr. has become an Association representative for the New Orleans area of the Mississippi-Louisiana Brick & Tile Mfr's. Assoc. He plans to attend the February SCPI Sales Engineer Training Course in Washington.

David T. Brookman has been named assistant superintendent of the Irondale Works, Refractories Div., H. K. Porter Co., Inc., according to an announcement by Paul T. Talbott, district works manager of the Ohio operation. Brookman had been superintendent for the Stevenson Co., Wellsville, Ohio.

ANOTHER **ALLIED** KILN INSTALLATION

LEHIGH SEWER PIPE

& TILE COMPANY • FORT DODGE, IOWA

At Lehigh they chose ALLIED—for expanded production of their high-grade sewer pipe. Founded in 1908, the company is celebrating its 50th *consecutive* year of operation, and recently installed continuous production facilities.

President George L. Avery, and Joe A. Bryant, V. P. and General Manager, are to be congratulated for *moving forward* while looking back on Lehigh's first half century.

FERRO

Allied Engineering Division

FERRO CORPORATION

4150 E. 56 STREET • CLEVELAND 5, OHIO

Robinson Clay Product Co., Akron, Ohio, awarded safety bonuses to their drivers at an annual Christmas party. Fourteen out of 20 drivers with no chargeable accidents and with 844,000 miles of driving, received the highest awards. Eleven drivers had accident-free records during 1957. Top drivers were R. H. Young and W. S. **Maple.** Maple has a record of 14 years of driving, totalling more than a million miles, with no chargeable accidents.

Edwin F. Lockhart, vice president of Sayre & Fisher Brick Co., Sayerville, N. J., was honored at a dinner recently in recognition of his 60 years of service with the company. He was presented with a diamond ring by **John H. Junker,** Sayre & Fisher president. He also received a tie bar and cuff link set and binoculars. Also honored at the meeting for long service were Fred S. Davis, 54 years; Miss Sarah Heinz and Mrs. Katherine Perkins, 30 years each. Both of the latter were given diamond rings.

Paul T. Talbott, district works manager of the Refractories Div., H. K. Porter Co., Inc., has announced the retirement of **S. N. Krotzer** as superintendent of the Porter McLain Champion works at Wellsville, Ohio, and the appointment of **L. B. Armstrong** as his successor.

Bill Karl, of Lehigh Materials Corp., Tamaqua, Pa., has been appointed Lelite sales manager. His office is in New York City.

William Weinmann of Parral, Ohio recently was given a 50-year pin and wrist watch for long and continuous service for Robinson Clay Product Co. Other service pin awards were given to **Rose Anderson,** 35 years; **E. S. Hewitt,** Pottstown superintendent, 30 years; **W. H. Davis.**

Freeman S. Douglas—63, recently head of the purchasing department at The Babcock & Wilcox Company's Refractories division in Augusta, Ga., died Friday, December 27, as a result of injuries received in a fall the previous day at the home of his daughter, Mrs. Charles D. Adams, of Decatur, Ga. Born on June 30, 1894, in Philadelphia, Mr. Douglas joined B&W in 1916 as a student engineer at the Bayonne, N. J., Works. After working as a service engineer in the Boiler division, he was transferred in 1922 to the East Liverpool, O., Works of the Refractories division, where he was employed in general production and construction. In 1930, he moved to Augusta, where he was in charge of operations until he was made head of production in 1938.

Symbol of Quality

Backed by more than 50 years of pioneering leadership in the Concrete Masonry Industry!

• When you think of concrete block machinery, you invariably think of BESSER. For more than a half century, BESSER Company has been intimately associated with the Concrete Masonry Industry . . . designing and perfecting better block machines . . . improving plant production methods . . . creating new and more attractive block designs . . . and, in general, raising the standards of the entire Industry.

Today, BESSER is universally regarded as the leader in its field and a big factor in expanding the Concrete Masonry Industry into a profitable, world-wide enterprise. If you are interested in high-quality block production, consult BESSER. Ask for literature and the name of your nearest BESSER representative.

ALASKA, ARGENTINA, AUSTRALIA, CANADA, CZECHOSLOVAKIA, DOMINICAN REPUBLIC, ENGLAND, FRANCE, HAWAIIAN ISLANDS, ICELAND, INDIA, IRELAND, MEXICO, NEW ZEALAND, PANAMA, PHILIPPINES, PUERTO RICO, RUSSIA, UNITED STATES, VENEZUELA, YUGOSLAVIA, BRAZIL, COLOMBIA, CHILE, CUBA, DUTCH WEST ANTILLES, GREECE, GUAM, HOLLAND, ISRAEL, JAPAN, SPAIN, SAUDI ARABIA, MOROCCO, SOUTH AFRICA, BELGIUM, IRAQ, PERU, EGYPT

World Wide Service

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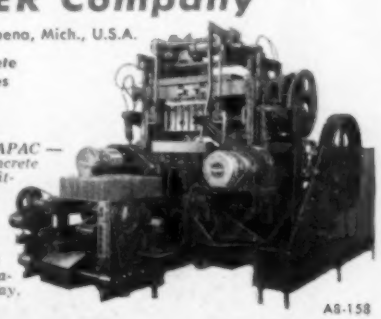
First in Concrete Block Machines



• *BESSER VIBRAPAC — world famous concrete block machine — a profit-maker for block plants, everywhere. Produces ALL types and sizes of block on ONE set of Plain Pallets. Fully automatic. Capacity up to 10,000 units (8" or equivalent) per day.*

AS-158

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The Besser Vibrapac is the culmination of more than a half century of engineering and production "know-how." Highly regarded throughout the Industry, this dependable machine supplies blockmakers with a completely engineered system of producing building units by AUTOMATION ★ ★ ★ The *Automatic Feed Control* produces block of uniform quality and density ★ ★ ★ *Automatic Height Control* accurately regulates the height of the block ★ ★ ★ The new *Besser UPT* (Uni-Pressed Top) eliminates ALL core plate marks ★ ★ ★ The exclusive *Besser-Matic* loads green block and unloads cured block, automatically ★ ★ ★ The Besser system of *Automatic Lubrication* means that all moving parts of the Vibrapac are lubricated while the machine is in operation ★ ★ ★ Besser leadership in pioneering new concrete block machines and improving plant production methods has just naturally won for the company the No. 1 position in the Industry.

1st to produce all types and sizes of block on one set of Plain Pallets, instead of using numerous cored pallets.

1st to apply the cam roller system of power application, thereby delivering power with pin point precision and with steady uninterrupted regularity.

1st to offer service in furnishing suggested plans for most economical and efficient plant layout.

1st to offer new block designs to architects and builders for above grade construction.

1st to develop and build a Power Off-Bearing Hoist to eliminate block lifting by hand.

1st to introduce Cubing for fast lift truck transportation and fast truck loading.

1st to use two 10 h.p., high starting torque motors, for maximum vibration force to obtain dense weathertight block.

1st to produce batter block for manholes, on production basis, with same speed as conventional block.

1st to introduce Automatic Lubrication, thereby permitting Vibrapac to lubricate itself at regular intervals, while it is running. Saves labor, parts and maintenance.

1st to use 2000 pounds pressure on block during finish vibration.

1st in the industry to erect concrete masonry exhibits at Architects' Samples Corporation, New York and National Housing Center, Washington, D.C.

1st block machinery manufacturer to advertise block in architectural and building publications including Sweets Architectural File.

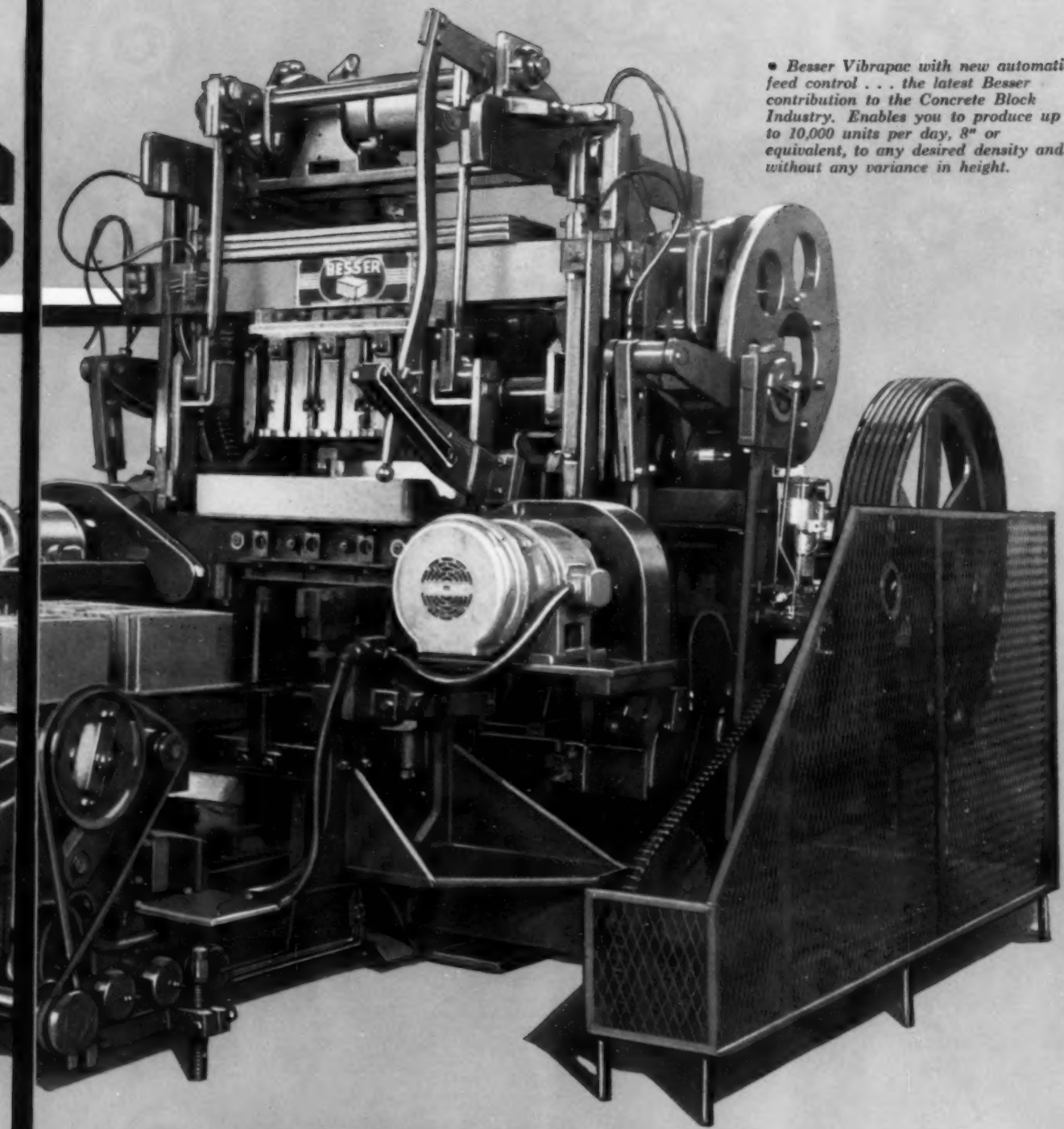
1st to sponsor a school for block makers and block users, with competent instructors and established curriculum.

1st to offer a Materials, Methods, Research & Testing Service to solve mixing and proportioning problems.

1st to produce a building block with U.P.T. — (Uni-Pressed Top) so block has no machine marks whatsoever.

1st to introduce Automatic Feed Control as a dependable and visible means of maintaining the quality of the block and to eliminate guess work in feeding.

1st to introduce Automatic Synchronized Block Handling for both the loading of green block on rack and the unloading of cured block off rack, thereby eliminating one man for Off-bearing and one man at Cubing Station.



• *Besser Vibrapac with new automatic feed control . . . the latest Besser contribution to the Concrete Block Industry. Enables you to produce up to 10,000 units per day, 8" or equivalent, to any desired density and without any variance in height.*

THE CHOICE OF LEADING BLOCK MAKERS — EVERYWHERE!

Today's Front Pallet Feed Vibrapac forms the heart of the modern concrete block plant. It produces premium block on a fast, continuous production basis, and, in a large measure, accounts for the phenominal growth of the Concrete Masonry Industry.

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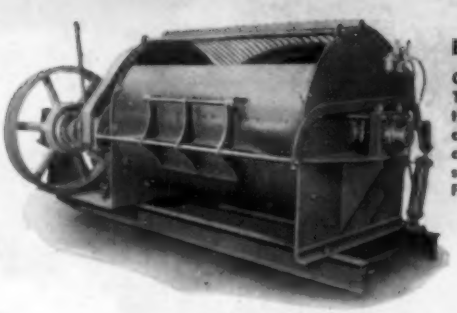
First in Concrete Block Machines

BESSER Skip Loader

for elevating mixed concrete to block machine on same floor level. Makes mixer man more accessible to Vibrapac operation. Saves one story of building height.



BESSER Batch Mixer

Quick-charging and self-discharging. Twin spiral blades for fast, thorough uniform mixing. Blades and liners made of NI-HARD abrasion resisting iron. Steel grid safety guard. Roller bearings. Full range of sizes available.

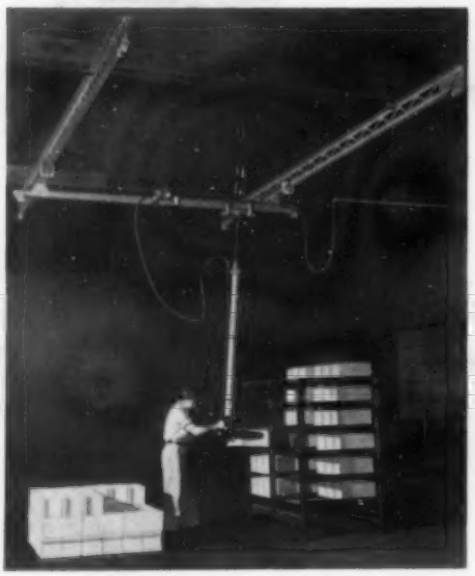
BLOCK PLANT EQUIPMENT

...designed and perfected by the makers of the world famous VIBRAPAC

BESSER Pallet Cleaning Machine — Fully automatic, noiseless, dustless, portable. Cleans pallets without warping or nicking. Capacity: 300 pallets per hour.

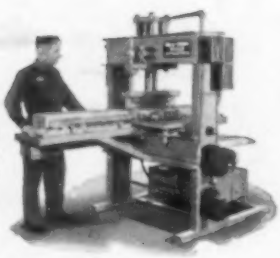
BESSER Bridge Crane Block Cuber

Eliminates lifting block by hand. Pneumatic clamp and hoist remove three 8" block (or equivalent) from rack to cube. Fork lift truck transports cube to yard. Permits neat stock piling. Simplifies inventory count. Conserves yard space.



BESSER Block Splitter

Smooth, fast, automatic operation. Splits block in a straight line. Easily adjustable for various block heights. Quiet, safe operation. Capacity: 960 split block per hour.



BESSER Brickveyor

Two varying speed belts automatically tip brick from a vertical to a horizontal position for correct cubing positioning. Adjustable, inclined gravity roller conveyor accumulates rows of brick for power brick clamp cubing. Capacity: up to 60,000 brick per day.

• Additional Block Plant Equipment available from Besser Company: Turntables ... Cubing Platforms ... Cubeveyors ... Block Racks ... Attachment Racks ... Attachment Jigs ... Combination Clamps ... Brick Clamps ... Block Trimmers ... Plain Pallets. Ask your nearby Besser representative for complete details.

BESSER Company

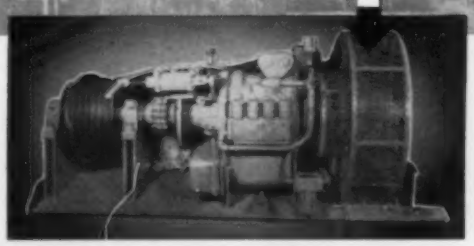
Alpena, Michigan, U.S.A.

First in Concrete Block Machines

NOW GET A BETTER BRICK

from YOUR SAME MIX

SAME PRESSES



If you want **more brick** of a **much higher density,** and of **more uniform quality** produced on your own standard dry presses . . . here's your answer.

IT'S CALLED THE *MULTI-SPEED* DRY PRESS DRIVE

Here's how it works:

A standard mechanical press operates at six strokes per minute, making a product which is near the pressure cracking stage when pressed to the desired density. Slow down your pressing time to three strokes per minute and you can increase density but production is cut in half; and coarse particles in the mix may roll and segregate.

Now speed up the press to ten strokes per minute during the charging cycle and you eliminate many air voids, making a more uniform product and greatly reducing segregation in the mold box. Combine these two variable speeds with an intermediate gear for the ejection and you have the *Multi Speed* Dry Press Drive.

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Plant Improvement Program Ups Production 1.5 Million a Month

Kansas B&T conducts clay exploration work, changes dryers and kiln to boost output, eliminate waste product, cut firing time.

Increasing production from 1.5 million to 3 million brick a month has resulted from a strong program of process improvement by Kansas Brick & Tile Co., at Hoisington, Kans. This startling increase is more interesting when it is considered that no major enlargement in plant was made and in the course of the program the output of a tunnel kiln was tripled. While total production zoomed the record was not made at the expense of quality, but in fact the quality improved to an extent comparable with production.

Kansas Brick, built in 1955 and producing that year with five beehive kilns later added an Inter-kiln tunnel kiln for more capacity (see Dec. 1955 plant description). Blessed with extraordinary clay and a location in the heart of Kansas gas fields the plant was able to produce a wide range of colors in several different sizes of brick; however, burning problems were causing a significant number of off grade and cull brick.

The board of directors found the situation unsatisfactory and instituted a search for a technically trained manager who could develop the high potential of the plant.

Clyde Humphreys joined the company in December 1956 and assumed the general managership in March of 1957. The improvement of the production situation dates from that time and makes an interesting study in management procedures. All improvements were designed and instituted by Humphreys and carried out under his supervision.

Pit Exploration

The original pit, opened when production was first started, had been located at the place where the first discovery of the high grade clay was made. As use continued it was found that the clay varied a great deal and in fact limited the reliability of the colors produced and to some extent the quality of the fired brick as the productive process could not be standardized.

To solve this problem an intensive exploration campaign was started to determine the clay resources available. The core drilling program was carried out by a three man crew and required several months to cover the most likely parts of the 2,500 acre holdings of the company. When completed it was found that the original ideas as to the nature and extent of the clay deposits were in error.

In fact, the most uniform and best clay was located some distance from the first pits and due to its thicker veins and homogenous nature was cheaper to recover since over-burden was less serious and new pits were opened. The area exposed was rather large in order that the clay could weather since air-slacking improved the working properties of this clay. As now operated, red and pink burning material comes from one pit and buff burning from the second. A large stockpile of clay was moved to the plant site so that production would be independent of weather conditions.

The mesh size of the screens were reduced from 6 to 12 as the first change in the production process and grog was eliminated from the mix. While the large mesh size and grog had been selected originally for drying consideration, it was found that the change did not in any way affect the drying or burning of the brick. It did however, result in a much sounder body showing a lower absorption and greater compressive strength.

Dryer Change Made

A major change was made in the dryer in that the length was extended two car lengths and the inlet air from the cooling section of the kiln was moved to the new exit end of the kiln. The recirculation of air in the dryer was doubled by adding fans to the structure and total amount of heated air was increased by increasing the duct area. The immediate result of these changes was the reduction of loss in the dryer to a negligible quantity and the management was ready to tackle the tunnel kiln.

An unbalanced condition of firing in the tunnel was causing a high rate of loss, many brick were airchecked and would break into culls with only minimum handling. The designed capacity of 40,000 brick per day was being put into the kiln but the recovery of #1 brick from 60 to 80%.

To determine what was happening in the kiln a platinum thermocouple was put into the brick setting on a car and drag lines attached. The car was then put through the kiln and temperatures were checked on a pyrometer. The resulting temperature curve showed abrupt load variations with hot spots going to 500 F. higher and then back down.

Brick entered the furnace zone of the kiln at only 1000 F. and the cooling curve was also precipitous with cold air being allowed to strike back in the critical cooling area. It was decided that the primary problem was the pre-heating section.

Consequently recirculating fans were added to the kiln and burners adjusted to raise the heat. The draft was increased several times to carry the heat into the setting. When the preheating curve was leveled out the brick entering the furnace section went in at 1,700 F. instead of 1,000 F.

Strength Increased

With the preheat section under control, the maturing temperatures of the furnace section was raised 300 F. While the preheat section work required 30 days to accomplish, the furnace section temperature was raised overnight. The higher temperatures immediately increased the quality of the ware in that strength was increased while absorption and the C/B ratios were vastly improved.

Attention was then directed to the cooling zone of the kiln. In this case it was found to be impossible to maintain a satisfactory cooling curve so the company shut the kiln down and added seven car lengths to the cooling section. While down, opportunity was taken to go into the furnace section and a bag wall was built in front of the lower burners. This wall four feet high prevented the impingement of flame on the bottom brick which eliminated a considerable amount of fire flashing. More important however, was the fact that now the kiln was distinctly down draft.

Setting Changed

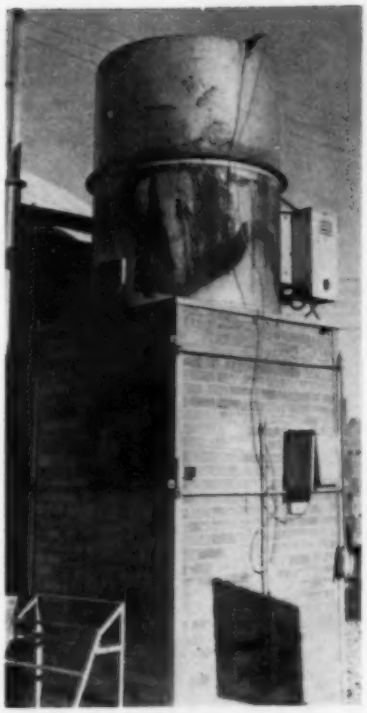
To take advantage of the natural flow of gases the setting of kiln cars was changed so that a flue of 4-6 inches was put in the center of the settings. This was in contrast to the solid setting previously used. When relighted, the changes in the furnace section had evened the top to bottom temperature and the temperature sensitive clay now was practically the same color on all parts of the cars and remained true from car to car.

Besides the additional length on the cooling end of the kiln, a recirculating fan was added which with better flow control made it possible to maintain an adequate cooling curve. The 1300°-900° area was made as long as possible. The changes in the cooling section eliminated the balance of the firing problems and when the kiln was back in production the recovery rate went as high as 100% and never dropped at any time below 95%.

The management was now ready to push the kiln to its ultimate capacity and the acceleration was begun. When the schedule had been increased to twice the designed capacity and the actual recovery tripled it was felt that the operation was complete.

A similar program was carried out with the beehive kilns. In this case the major change was a great increase in the draft. The kilns are equipped with hi-draft fans on the stacks but the adjustments had not been made for maximum production. No structural changes were made in the periodic but the burning time was reduced by 1½ days and with more effective production control the turnaround on the periodic kilns was improved.

The improved quality of the brick and the dependability of the operation induced a better demand for vastly increased production. In December 1957 the plant was producing at a 3 million brick a month rate compared with a 1.5 million rate in December 1956. To supply the kilns, the machine room was required to be put on a two shift basis and worked six days a week.



Change to higher draft helped cut burning time 1½ days.

Kansas B&T uses fork truck handling of brick extensively, including kiln setting.

General manager Humphreys looks over daily records.

Complete Cost Control Helps Production

Kansas B&T sets up cost control program which uses several specially designed forms to keep operators informed daily of all production; gives complete breakdown of operation.

Control of costs by the Kansas Brick & Tile Co., at Hoisington, Kans., has, according to Clyde Humphrey, general manager, been made easy by a complete cost accounting system, reinforced by production records and a highly refined system of inventory control. Using 17 or so specially designed forms the manager of the company has, early each day, a complete record of the previous day's work. In use for a year, the control system is credited with being partially responsible for a great increase in net income.

Basically the entire system can be described as production control, wage control and perpetual inventory. Upon being made general manager, Humphrys set up the system which requires most of the time of one clerk. All of the forms begin with the individual daily job form. This form is filled out by the foremen for each department for all of the men who have worked on that day in his department. Recording not only the department the man was working in but also where in the plant this form also carries the rate for the job. When the cost clerk receives this form the total cost of labor is calculated and the total direct labor cost of each man to each department is carried to the master time sheets.

Master Time Sheets

Master time sheets are designed to simplify the aggregation of information that is used for the cost reports. Due to the large number of accounts used in the company four 8x14 inch sheets are required to tabulate the 25 or so different accounts.

One sheet covers the direct operation expenses including the pits, clay preparation and forming operations. Each logical break in the productive process allows the bookkeeper to set up a corresponding account in the system. By observing each account any deviation is readily apparent and would serve as a warning that something was wrong in that area of the total effort that is increasing cost. Not only is the direct labor cost separated and noted but each area of production also is charged for the maintenance and repairs as a direct cost. A recapitulation at the end of each month can be placed in the manager's hands promptly.

This sheet also has some maintenance accounts so that when production crews are used on indirect costs this sheet will show the extent of the charge.

The maintenance and electrical sheet contains all accounts that are affected by the maintenance crew. These accounts are of a reoccuring nature and cover indirect expenses such as repair of buildings as well as duplicating the indirect maintenance accounts carried on the first sheet. This allows the segregation of the maintenance crew from the production group on the breakdown, even though at times production workers and maintenance are doing the same indirect work during a breakdown.

Other Labor Costs

The third master time sheet covers the labor incurred in setting the periodic kilns and all other jobs following the step in the plant's operations. The removal and shading of brick from tunnel kiln cars as well as the transfer to storage is accounted for on this form. As yard operations are not tied to machine time, yard costs are broken down into very small increments. Therefore by referring to cost records the management knows how much it cost to clean boxcars, load cars, load trucks, rearrange stock or clean the stock area during any time period.

The last time sheet covers the labor cost of burning and breaks these figures down for the tunnel kiln and beehive kilns.

By using four sheets the manager can see at a glance the cost of each job in the plant and the total costs for the four major divisions which are production, maintenance, burning and shipping.

To show at a glance how effectively labor dollars have been spent, a series of production reports have been designed. Again these forms follow the natural breaks in the production process making a direct comparison possible and allowing a direct cost per unit to be found. The sheet showing the running record of the grinding department also carries the amount of material hauled from the pits. The production forms have spaces for the names of the men doing the work and the foremen in charge.

Since the plant is on a two shift basis the form is designed to show shift involved. A time chart allows the foreman to indicate when the grinders were out of operation and space is provided for explanations of down time. Amount of barium used and the rate is also noted on this form.

Brick Machine Breakdown

A similar form is used for the running time of the brick machine. In this instance, as with the grinder, the blend of clays processed is recorded and the total production of each type of brick and vacuum condition is noted. The workers on the job are noted as well as the production per hour and the number of men in the crew. Besides acting as a production control these forms control quality as any bad ware can be traced back to the conditions under which it was formed and which men were producing it.

Daily Dryer Report

A daily report on the dryer gives an inventory on the material in this process as well as an additional control on production from the machine room. Two forms, one showing periodic kiln setting and the other covering the tunnel kiln are also kept daily. The total brick moved into kilns is of course equal to total removed from the dryers. The tunnel kiln form shows number of brick removed and notes kind, grade and number of culls.

The periodic kiln setting is carried to recapitulation sheets and when the periodic kiln is drawn a complete cost record of setting and drawing each periodic exists as well as the turnover time of that kiln.

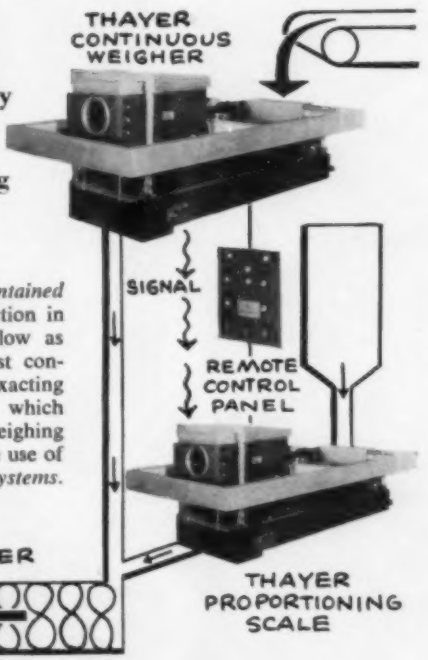
To complete the record system a series of forms are used to recap the total production and maintain a breakdown as to the number and kinds of brick in process as well as the number and kind in inventory.

Cost Clerk Needed

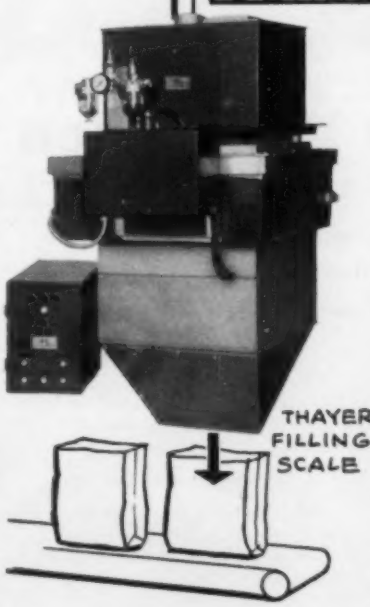
The cost of maintaining the system includes the maintaining of a cost clerk who spends a large part of the time on the reports. The time spent by plant personnel on hour forms is not great but does indicate to the plant workers the interest of the company in their work. The savings made possible with such detailed information are difficult to overstate according to the management of Kansas Brick & Tile Co.

CONTINUOUS FORMULATING with accuracy of ± 1/2%

Lifetime accuracy **of unique Thayer Plate Leverage System safely permits complete AUTOWEIGHTION* from basic formulating to packaging.**



The high degree of accuracy *maintained* by *Thayer Scales* and the reduction in headroom requirements to as low as two feet, now provides low cost continuous formulating for many exacting processes. Formulation control which previously required batch weighing may now be accomplished by the use of *Thayer Continuous Weighing Systems.*



Wide Proportional Ranges

Proportionately small but highly critical ingredients (such as dyes, solids or liquids) can be accurately controlled. Proportioning is based upon the rate of the main product stream by using a *Thayer Continuous Weigher* to send an electrical or air signal to a *Thayer Constant Weighing Proportioning Scale.* This scale meters-out the additive material at a relative rate based upon the variable rate of the main stream.

Exclusive Leverage System Outperforms Other Scales

An extremely high degree of reliability is maintained through the exclusive use of the *Thayer Plate Leverage System* which is ***guaranteed accurate for the life of the scale.*** This unique scale has no knife-edge pivots to wear down and is not affected by dust, dirt, vibration or shocks.

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THE Thayer SCALE

*THE THAYER SYSTEM OF PROCESS CONTROL BY WEIGHT

AUTOWEIGHTION

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U. S. Market Wide Open for Stahlton

Manufacturers should think less in terms of product and more in terms of the superior material that clay is; large market is open for Stahlton method of floors; pre-fab will help sales.

Let us now look at the market in the U. S. Can tile sales to the building industry be increased profitably by expanding sales to that section represented by floor and deck constructions? Are there any particular conditions and/or qualifications to this market which preclude the use of structural tile in floors as a load-bearing material, or which are otherwise detrimental to the marketability of the products under consideration?

We know that at present approximately 85% of the total clay product output, including bricks but excluding pipe, is sold for wall construction of the various kinds, which in turn represents not more than about 12% of the total expenditure in building construction. How much more tile can be sold of the other 88% of the total building market?

We can at least partly answer this question here, by determining the tile sales potential in that portion of the 88% of the building market represented by floor constructions.

Difficult to Find Market

To find additional applications (markets) for say building brick or backup tile other than for wall construction is very difficult, simply because those products were specifically designed for those applications, i.e., for walls. True, some tile is now used in floor construction, but that is mainly due to lucky accident and reflects no credit on the marketing ability of the clay products man.

The tile used, for example, in the clay-tile combination floor was and is really a partition wall unit, until some builder decided to use it as a forming block to make a ribbed concrete floor. Even so this is a most inefficient application of clay tile because it makes use of none of the superior qualities of the material. It is just a form, competing against wood, steel, cardboard and other substitute materials for this particular function just on a price basis.

It surely is logical that if terra cotta as a material is to be effectively used for other structural building applications, then products made from terra cotta must be designed specifically for those applications. The industry should stop thinking in terms of bricks, or tile, that is, in the **product,** and think more in terms of the material—a very superior material from which a great variety of products can be made and sold if and when each is tailored to meet the requirements of the end use. In other words, additional markets can and will be captured only with and through **new product design.**

Part II of a Series

Above is an interior view of the Stahlton units in place.

Stahlton is at least one example of what good product design can do—a clay product manufactured by standard techniques and with normal facilities, yet one designed specifically for a certain job, i.e., for floor construction. It demonstrates beyond any doubt that clay tile can be sold in much greater quantity to the building industry. In 1955-56 over 1,200,000 tons of clay tile was used in Stahlton floor constructions in all of the operating plants. This year it will be over two million tons.

Stahlton marketing recognizes that the most effective demand is exerted on the clay tile producer from or through the builder, rather than the architect or owner. All the builder really wants is to be able to build to the given specifications at the least cost. The **demand is for reduced costs.** Thus there exists a strong demand for building components which have the physical properties of the basic material specified (in this case terra cotta) yet which are easier and cheaper to make or erect.

Basically the builder is not a manufacturer. He is an erector—an "assembler." The larger the parts and the quicker he can assemble them at the site, the more money he makes, so long as those larger parts cost no more than the sum of their components plus the assembly charge. The demand is for prefabrication and standardization without any willingness to forego any of the qualities or properties contained in the piece by piece construction.

Benefits of Pre-Fab

So the product which has the real saleability is the prefabricated structural component, showing a comprehensive and increasing list of benefits to the builder, architect and owner alike, not to mention the advantages to the producer.

How big is this market in the U. S.?

Calculating a market potential is always difficult when it concerns the future, but we are fortunate here insofar that we can avoid this guesswork and concern ourselves only with the measure of the potential as it is NOW in the existing market.

Floor constructions fall firstly into broad classifications, e.g., (i) timber frame buildings, which will generally have timber floors, (ii) new factory buildings, which have ground-level concrete slab floor construction, and (iii) residential, institutional and commercial buildings with suspended floors of concrete or equivalent "fireproof" construction. We are interested especially in this latter group (iii) because it represents the first and immediate prospect for the application of prefabricated floor, of which Stahlton is only one type.

The value of floor construction in any building represents from 8% to 15% of the total expenditure on the building construction, ranging from single story buildings with lightly loaded floors to multi-story warehouses and factories.

Statistics are readily available on past and current total and sectional (classified) expenditures on building construction in the U. S. From these statistics we can therefore first isolate that portion or amount representing the total building expenditure within our classification (iii) above, and from this amount further establish the amount we know to represent expenditure on all floors within that classification.

No one single type of floor construction will ever by itself fully satisfy all possible requirements that can be made in floor design. The total market will always be shared by a number of floor types, even as it is now. So with effective marketing methods, each floor type will capture and hold that portion of the total market described as its "saturation level," i.e., in which the marginal costs in each case are equal, or at that level at which any increase involves additional selling and other costs which reduce total profit.

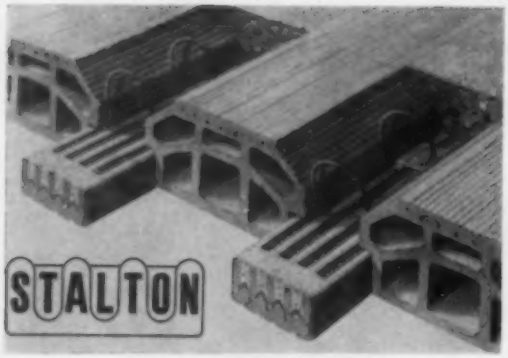
Saturation Level

The easiest and most reliable way to determine the saturation level for any such product is to study the sales of that product in the same market in the preceding period. To determine the potential for Stahlton type floor, the nearest we can come to it for the U. S. market is to study some reliable sales figures in other markets where it has been selling in the preceding period(s), and then make a qualitative and quantitative comparative analysis between those other markets and the new market—the U. S. market.

There is no pretence that the volume of business indicated by the list of potentials can be secured overnight. It cannot. But it is there, waiting to be taken up. But appropriate techniques will have to be applied if that

Continued on next page

View of Stahlton factory. Manufacture of Stahlton units will be reported on later in series, as will installation information.



STAHLTON Continued

is to be done effectively, efficiently and at the least cost. At least three conditions have to be met—(i) the competition against the industry, (ii) the competition within the industry, and (iii) the institutional circumstances of the market.

The Competition

The competition existing now in the prefabricated floor business in the U. S. is not at all formidable. The various floors on the market taken together have hardly yet earned themselves the status or recognition of an "industry" in itself.

Firstly the competition from other types of floor construction, i.e., from the non-prefabricated, is almost non-existent as an organized or active force. The strongest and possibly the only factors motivating the sale or use of the site built floor constructions are habit, economy and ignorance—on the part of the user, who often fails to look elsewhere or to demand alternatives at lower costs—on the part of the supply market which fails to voluntarily offer the improvement and new products which the conditions really justify. Neither the steel industry nor the concrete industry (excluding the precasters) has salesmen or sales literature out specifically selling floors.

Most engineers by custom and habit tend to specify yesterday's floors. It is generally believed, and in many cases true, that orthodox construction is still cheaper to use than prefabricated floors. And most important, unfortunately a very large proportion of those people who are responsible for floor specifications do not know of or are otherwise unfamiliar with other floor types and their comparative advantages. Lastly the building codes in the various states show some discrimination against certain types of construction.

No Organized Industry

There is no organized industry or group selling floors or even materials specifically for floor construction against prefabricated floors.

Secondly, the competition within the "industry" is not very great either. There are now about 18 different kinds of prefabricated floors (masonry or so-called fireproof) offered on the market here, some of which are almost identical, but mostly without any standardization. The more successful of these floors at present seem to be the beam type (e.g., Flexicore) and the beam plus block type. Flexicore is manufactured in a common standard in 19 plants in the U. S., and is well marketed. It is not a prestressed floor.

Leap System

At least five manufacturers are selling prestressed concrete floor systems (apart from the "Leap" system, which is essentially for deck or roof construction. None of these have so far shown any outstanding success in the market.

The writer has visited a number of prefabricated floor producers in this country, several of which claim sales for 1956 or over $1½ million within their own immediate market territories. For instance, two manufacturers are in "competition" in a Wisconsin city, and between them allegedly have sold over $3 million worth of floors in their market in the last year.

It has been noticeable that the highest claimed sales were for those floors that did not necessarily have the best or greatest amount of advertising and visible sales campaigning. No doubt the particular aspects of each local market affects and determine the potential. In some areas, e.g., Florida, concrete construction is far more acceptable relatively than in other areas.

The concrete block manufacturers are aware of and now keenly interested in the market potential for blocks in floor constructions. America's largest block machine manufacturer is now spending considerable time and money on research work to develop a block and a system for this application, the idea being to sponsor the promotion of a suitable block floor system throughout the country and so capture for the concrete block industry as big a share as possible of this market.

Thirdly, we have the institutional circumstances of the market in which we are considering, those factors over which individual producers have no control—the framework within which they have to operate.

Building Codes Restrict

Probably the most serious of these factors limiting Stahlton potential comes from the restrictions applied by the building code in the various states. Some areas do not as yet permit the use of prestressed construction. However, there is no doubt at all that prestressing will be fully acceptable in ALL states in the very near future. A new code for concrete construction providing for prestressing is now in process of compilation and is expected to be in circulation before the end of this year.

It is apparent therefore that the column of sales potential for a floor construction of a specific type (e.g., Stahlton) can be determined with considerable accuracy for any particular territory, firstly within the framework of the generalizations made above, and secondly modified according to the qualifying aspects of that particular market. At the same time the cost of selling can be established.

The profitability will of course depend on local market conditions effecting essentially the selling price—what can a Stahlton producer get for his product? The selling price will be set by the ruling market conditions, the competition against the product by substitute products, and between producers of the same product, rather than by a cost plus fixed margin basis. This is so because the production costs of Stahlton are so far below current floor prices for alternative constructions.

Can Compete

The material and labor content per square yard of the Stahlton floor, manufactured and erected, has been definitely and reliably established and some figures will be quoted in the following article dealing with Stahlton production. It will be seen that by substituting U. S. prices and costs for the known material and labor quantities, a price for a locally produced Stahlton emerges which shows beyond doubt that Stahlton can compete more than favorably on this basis alone, i.e., the price basis, against any other type of floor construction now being used in the U. S.

It can be shown that under the present conditions in the U. S., each unit of structural tile manufactured and sold for application to floor construction such as the Stahlton type, can earn a net profit up to 7.6 times as high as that earned by making and selling that same structural tile to the building industry for orthodox wall construction.

Wings on these augers are removable for replacement. The Borod hard-facing deposit prolongs life 4 times or more.

3 to 4 Months' Service from Auger Wings

Hard-faced with Stoody Borod

One of the common wear problems in clay machinery is auger wings or "wing knives." Normal service life is 2 to 3 weeks, yet at a cost of approximately $13.00 for labor and hard-facing materials, life can be extended up to 4 months.

Hard-facing procedure consists of welding a ⅛" round along the periphery of the wing then "plating" the entire pressure face as well as the edge with a thin deposit of Borod. Wings are regularly inspected for wear, removed when efficiency starts falling off and are rebuilt following the same procedure.

Latest wear prevention techniques on all types of earth-working equipment are fully described and illustrated in THE STOODY GUIDEBOOK. A copy is available through your Stoody Dealer (check the Yellow Pages of your phone book) or write direct to the company.

Treatment of the auger wing is shown here. Top view is a new wing. Below, shape and size of the outer edge is retained by a ⅛" round. Face and edge are then completely covered with a thin wash of Borod.

STOODY COMPANY

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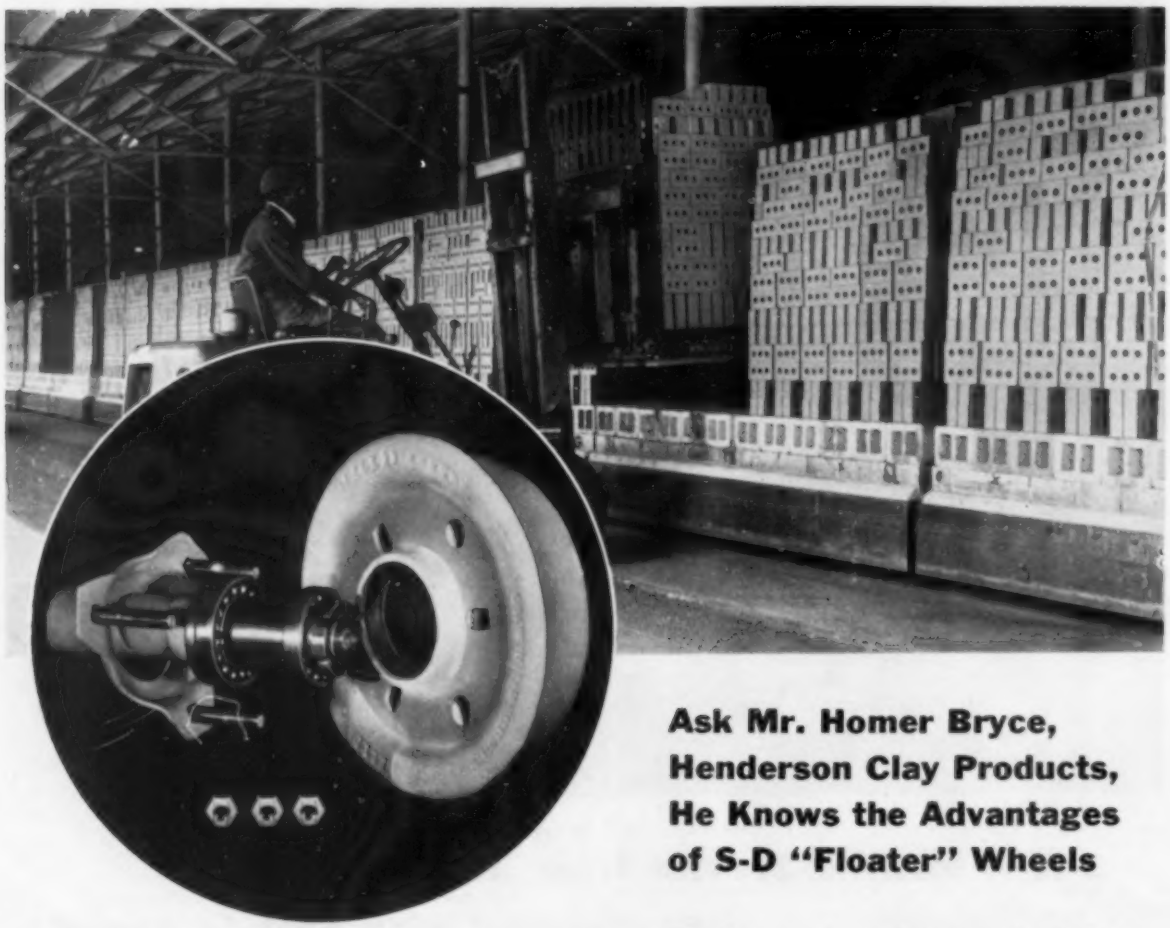
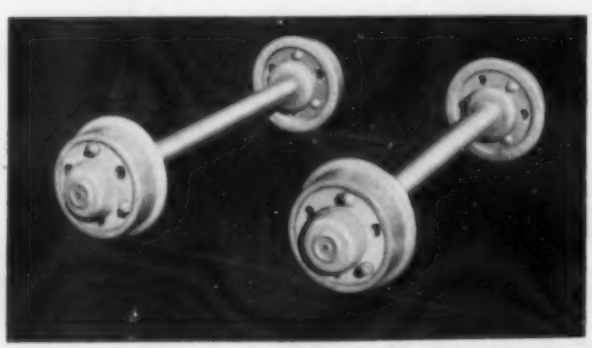


Here is the S-D "Floater", demounted. Bearings always remain in perfect alignment. No adjustment is necessary. Once bearing nut is tight, permanent adjustment is automatic.



We show above a car set of S-D Ball Bearing Floater kiln car wheels and axles. Note that the outer hub of the wheel is completely closed. The inner hub is protected by two metal grease seals. This feature effectively eliminates dust while retaining the special high temperature lubricant. Scores of brick plants all over the nation are recognizing the smooth running, low maintenance values of S-D "Floater" Wheels and are changing over rapidly.

Ask Mr. Homer Bryce, Henderson Clay Products, He Knows the Advantages of S-D "Floater" Wheels

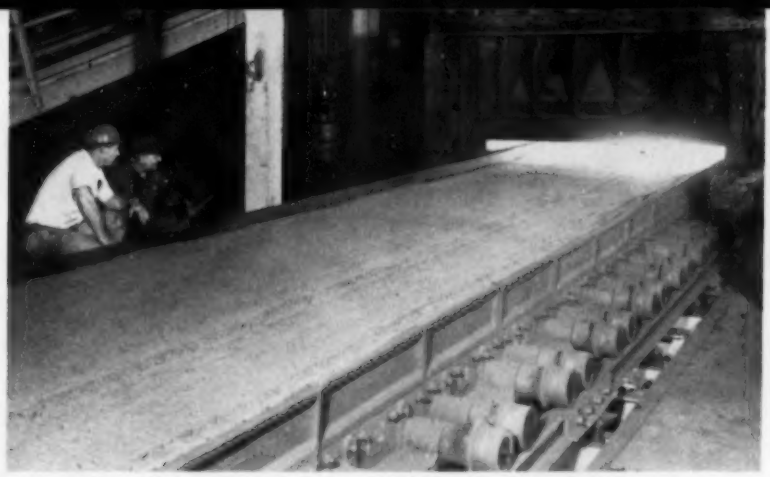
"We have many occasions to praise the Sanford-Day Wheels and Bearings to visiting brick plant men . . .", says Mr. Homer Bryce, general manager of Henderson Clay Products Co., Henderson, Texas. "We think the best way," he continues, "to recommend or compliment S-D Wheels and bearings is to walk up to a loaded car and push it with one hand. 'Seeing is believing.' We are well satisfied with them."

Mr. Bryce further reports they lubricate the S-D "Floater" Kiln Car Wheels on their cars only three times a year. The new improved S-D Kiln Car Wheel runs free and easy, eliminates high cost maintenance and frequent lubrication. Now you can eliminate old and obsolete kiln car wheels and their costly everyday maintenance and lubrication. Install S-D "Floater" Wheels on your cars — proved in scores of brick kiln installations. Ask us for complete information on this revolutionary S-D "Floater" Ball Bearing Kiln Car Wheel. *Sanford-Day Iron Works, Inc., Knoxville, Tenn.*

SANFORD-DAY

KNOXVILLE **TENNESSEE**

by
Karl Nensewitz
School Director
Besser Co.



Tips on Lightweight Aggregate Handling

Prewetting is method used by quality-conscious producer to control segregation; author discusses bin design, other aspects of lightweight aggregate production and operation.

Excerpt on Lightweight Aggregate from the Materials and Methods Session of the Besser School for Block Makers and Block Users.

The following excerpt dealing with Gradation, Segregation, Batch Variation, Moisture Compensatino, Cement-Aggregate Ratio and Mixing Lightweight Concrete covers part of the lecture presented during the Materials and Methods session in the General Course of the Besser School which will be held 8 times in 1958.

Gradation

A study of the recommendations made by a large group of lightweight aggregate suppliers indicated a spread in fineness modulus from 3.62 to 4.27, all within a group of materials having approximately the same specific gravity. The average of all combined were 3.93 F.M. with a breakdown on screens as follows:

See Table A

Prior to the above mentioned study Besser Laboratories completed tests employing Beslite, a sintered clay lightweight material produced by the Lightweight Aggregate Corporation at Livonia, Michigan. Research to obtain a pleasing texture, strength and workability of mix revealed an F.M. of 3.90 to 4.00 as most acceptable with the following breakdown:

See Table B

In a more recent survey of some 38 lightweight aggregates supplied to block manufacturers throughout the United States the average of all combined is as follows:

See Table C

While the above mentioned three gradations pertain to many types of lightweight aggregate they are not practical for all types.

Type of aggregate, block texture, strength, customer demands and other variables will often dictate what a blend requirement will be for a particular locality.

Segregation

The factor of material segregation has always plagued the concrete products producers with no sure cure remedy for the problem to date.

Segregation will have a marked effect on strength, texture, yield, etc. of the concrete product. Because lightweight aggregates are more susceptible to segregation, more attention should be given to this particular problem.

In most cases the quality conscious producer will set up and maintain some method of prewetting lightweight aggregates. Prewetting should take place at the point of unloading or when the aggregate is received and with a dampened condition to be maintained until the aggregate is fed into the mixer. Presently this regulated prewetting seems to be one of the most effective means of minimizing segregation.

Prewetting

A fine water spray or mist from one or more spray type nozzles applied to the aggregate at time of discharge from the rail car, truck, etc. has been found to be a practical method for the prewetting operation.

In lightweight materials the prewetting operation has a double value because such materials have a high affinity for water. Due to this fact, the thirst of the lightweight aggregate should be satisfied before it comes in contact with the cement.

If lightweight material is stockpiled for long periods of time, some preventative measure against segregation should be taken prior to the use of that stock.

Bins have been redesigned and modified, new type bin baffle plates made and tested to help eliminate the factor of segregation. It has been found that a combination of keeping bins full as possible and the material in a dampened condition are two very important preventative measures against segregation.

As proof of the full bin theory, watch the texture of the block change in the last batch or two as the bin is emptied.

The prevention of segregation is most important because of its effect on the amount of cement required to obtain a consistent strength.

(Continued on following page)

Table A

Sieve Size	⅜"	4	8	16	30	50	100	PAN	F.M.
% Retained	1.5	19.0	25.5	19.6	13.1	9.2	4.6	7.5	3.93

Table B

Sieve Size	⅜"	4	8	16	30	50	100	PAN	F.M.
% Retained	0	20.0	25.0	20.0	15.0	10.0	5.0	5.0	3.95

Table C

Sieve Size	⅜"	4	8	16	30	50	100	PAN	F.M.
% Retained	0.5	21.0	25.5	17.0	11.5	9.0	6.5	9.0	3.84

Lightweight materials should be purchased in two separate sizes (fine and coarse) and recombined at the block plant. This seems to be a common practice for sand and gravel, but generally not followed for lightweight. Because of the segregation problem which is far greater in the handling of lightweight as compared to sand and gravel, blending at the block plant, therefore, becomes far more important.

When batching by weight, the unit weight of lightweight materials, especially the coarse material, should be checked periodically. The unit weight of some lightweight materials can vary as much as 40%, which naturally will cause excessive variation in the mix.

Recently checked was this weight condition of a lightweight aggregate during one day's operation with the following results:

See Table D

Listed below is the effect on batch yield when there is a wide spread in the weight per cubic foot of lightweight aggregate:

See Table E

It is noted that when the cubic foot or unit weight of the aggregate changed from 60 to 50 pounds then the cubic feet in the total batch increased from 48 to 58 cubic feet. While this difference of 10 cubic feet may not seem serious, a decided change has taken place in the cement aggregate ratio which determines the strength of the resultant block. If this batch of 48.3 cubic feet is the standard from which a given strength block is obtained, then the change to 58 cubic feet will definitely weaken the block. This is due to the fact that the same volume and weight of cement is used to coat the particles in a batch of greater volume.

As a safeguard against volume change especially with coarse lightweight aggregate, considerable attention should be given to some form of control.

In many block plants where batching is done with a weigh batcher, the operator will also set up a volume gauging system when making lightweight block. This has been accomplished by use of hopper indicators, mirrors for sight judgment, slots cut in batch hopper or other means of telling when a definite volume of material is in the batch hopper regardless of weight.

A recent survey revealed that some quality control conscious plants are running daily unit weight tests of their aggregate in the loose pour condition which simulates the condition in which the material enters the mixer. By this means, any variation in cubic foot or unit weight can be determined and adjustments can be made on the weigh batching.

The unit weight test is very simple and consists of the use of a wood or metal cubic foot container and a platform scale. Material to be tested is loose poured into the cubic foot container, simulating the condition the material is in as it enters the mixer and striking off level with a straight edge. Unit weight is then obtained by weighing the cubic foot measure and material. Total weight minus the weight of the container will result in net weight of material.

Approximately four times a day, twice in the first part of a shift and twice in the second part of the shift the unit weight of the aggregate is checked. If two sizes of lightweight aggregate are used, it is recommended to check their unit weights separately.

To show the wide variances that can occur, the following four examples are presented:

Unit Weight	Scale Set for	Batch Volume
50 lbs./cu. ft.	2900 lbs.	58.0 cu. ft.
60 lbs./cu. ft.	2900 lbs.	48.3 cu. ft.
65 lbs./cu. ft.	2900 lbs.	44.6 cu. ft.
70 lbs./cu. ft.	2900 lbs.	41.4 cu. ft.

Moisture Compensation

Because most lightweight materials must be prewetted to approximately 10 to 12% moisture content before cement is added in the mixing process and as previously mentioned, it is recommended to have most of this moisture present during the handling period. It is necessary to compensate for the moisture present in the aggregate at the time of batching. If compensation for this moisture is not made there will be a shortage of aggregate and consequently a shortage in block yield, which in turn will reflect in the cost of the product and further will not provide a uniform concrete.

Shown below is a typical batch which reveals the compensation in aggregate required to adjust for moisture present in the aggregate at time of weigh batching:

"Dry Material"	
Dry Aggregate Mix	=
Approx. Normal Cement	=
Usual Water Required 16%	=
Yield	=
"Moist Material"	
Water Metered	=
Difference between Water Metered and Required	=
Compensation in Aggregate (40 gal. x 8⅓ lbs.)	=

Lightweight
2900 lbs.
610 lbs.
68 gal.
130-27 lb. block
28 gal.
40 gal.
333 lbs.

The above figures indicate that if a dry batch requires 68 gallons of water or approximately 16% by weight and instead only 28 gallons of water are used, then 40 gallons of water was present in the aggregate. In weigh batching, this means that 40 gallons of moisture was weighed over the scales and assumed to be aggregate. The 40 gallons multiplied by the weight of a gallon (8⅓ lbs.) of water is roughly 333 lbs. of water or that much less aggregate than desired.

Water as such will not make block, hence compensation for this entrapped water must be made if constant and controlled yield per batch is to be expected.

The 333 lbs. divided by the weight of the block or 27 lbs. equals approximately 12 block less per batch. The loss from a monetary standpoint is the extra cement that was expected to produce 130 block but actually produced 118 block.

Cement-Aggregate Ratio

Listed below are cement to aggregate ratios of suggested ranges for trial mixes with various types of lightweight aggregates:

See Table F

Table D

	Weight per cu. ft. variation			
Coarse Lightweight:	44.4#	to 60.6#	=	36% Variation
Fine Lightweight:	59.2#	to 62.8#	=	6% Variation

Table E

	Batch #1	Batch #2
Scales is set at	2900#	2900#
Average cubic foot weight	60#	50#
Number of cubic feet in batch	48.3	58

Table F

Type of Aggregate	Range of Mixes by Weight Only
Expanded Clay, Shale & Slate	1-6 to 1-9
Expanded Slag	1-5 to 1-7
Cinders	1-6 to 1-8
Pumice	1-4 to 1-6

Cement to aggregate ratio is the function of "how much cement to how much aggregate;" such as, the range of ratio figures shown above, which is 1 to 6, 1 to 5, 1 to 9, etc.

The method of calculating cement-aggregate ratio is as follows:

Batch consisting of—

2900 lbs. lightweight aggregate
483 lbs. cement

3383 lbs. total
2900 lbs. aggregate
483 lbs. cement

=

483 lbs. cement
94 lbs. per sack cement

=

6 which represents 6 parts of aggregate and
1 part of cement
5:14 sacks of cement per batch

Going a step further, we determine the expected yield as follows:

Assuming lightweight block to weigh 30 lbs. the batch yield would be:

3383 lbs. batch
30 lbs. per block

=

113 block per batch
5.14 sacks of cement

=

113 block per batch
22 block per sack of cement

The subject of mixing lightweight aggregates for the products industry has long held the attention of some of the best informed people in the business.

The question of how much water, when this water should be added, when and how to add the cement, should the fines be placed in the mixer first, etc., have been some of the major controversial points of this problem. A great deal of research has been completed on the subject with the end result for most types of lightweight aggregates following very close to the recommended procedure as listed below:

Mixing Lightweight Concrete

1. Charge mixer with all lightweight aggregate.
2. Add ½ to ⅔ total mixing water.
3. Add all cementitious material (cement, fly ash, lime, etc.).
4. Add balance of required mixing water.
5. Continue mixing absolute minimum of 6 minutes.
6. When tempering water is required to bring mix to required consistency, mix an additional 2 minutes after adding such water.

Most lightweight aggregates should always be prewetted as indicated in step #2 before cement is introduced into the mix, as a great loss of cement would otherwise take place into the voids of many lightweight aggregates, resulting in a considerable waste of cement.

Some of the mixing water must be added after all the cementitious material is placed in the mixer, therefore point #4 must be followed.

Point #5 is extremely important. It is recommended that all mixing periods should be timed and the total mixing should be timed very accurately. A timing device of some sort is absolutely necessary as no mixer man can be sufficiently accurate in timing without the aid of some device.

The total mixing time required for the best results is highly controversial. The characteristics of the particular aggregate and other factors may influence the length of mixing time. In general longer mixes have the greatest support. A well known lightweight manufacturer and block plant operator, after extensive tests, is advising users of their material to allow 8 minutes mixing time after cement and water has been added. Besser experience shows a preference to long mixing time from 7½ to 8½ minutes total. Of this, a minimum of 6 minutes mixing after all cement and water has been added is suggested.

In conclusion it must be mentioned that the material contained in this article is very basic. When presented as a part of the Materials & Methods session of the Besser School it is supplemented with such training aids as colored flip sheets, testing of aggregate samples, demonstrations etc.

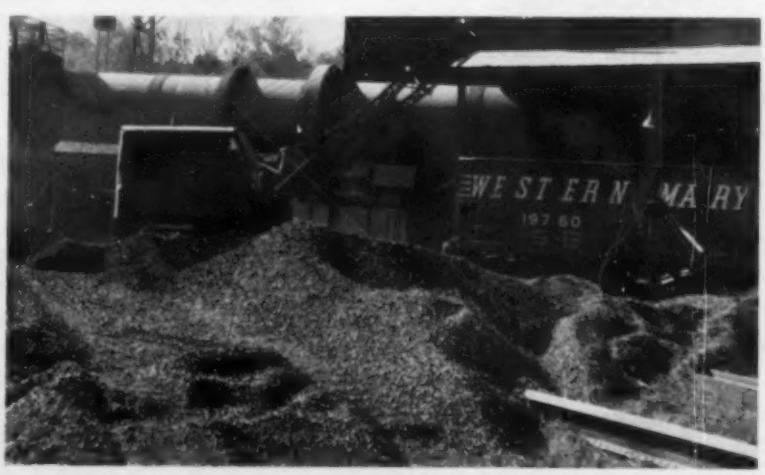
Listed below is a brief history of the Besser School for Block Makers and Block Users.

Since 1904 block makers have visited the Besser Company to receive training and observe the latest developments.

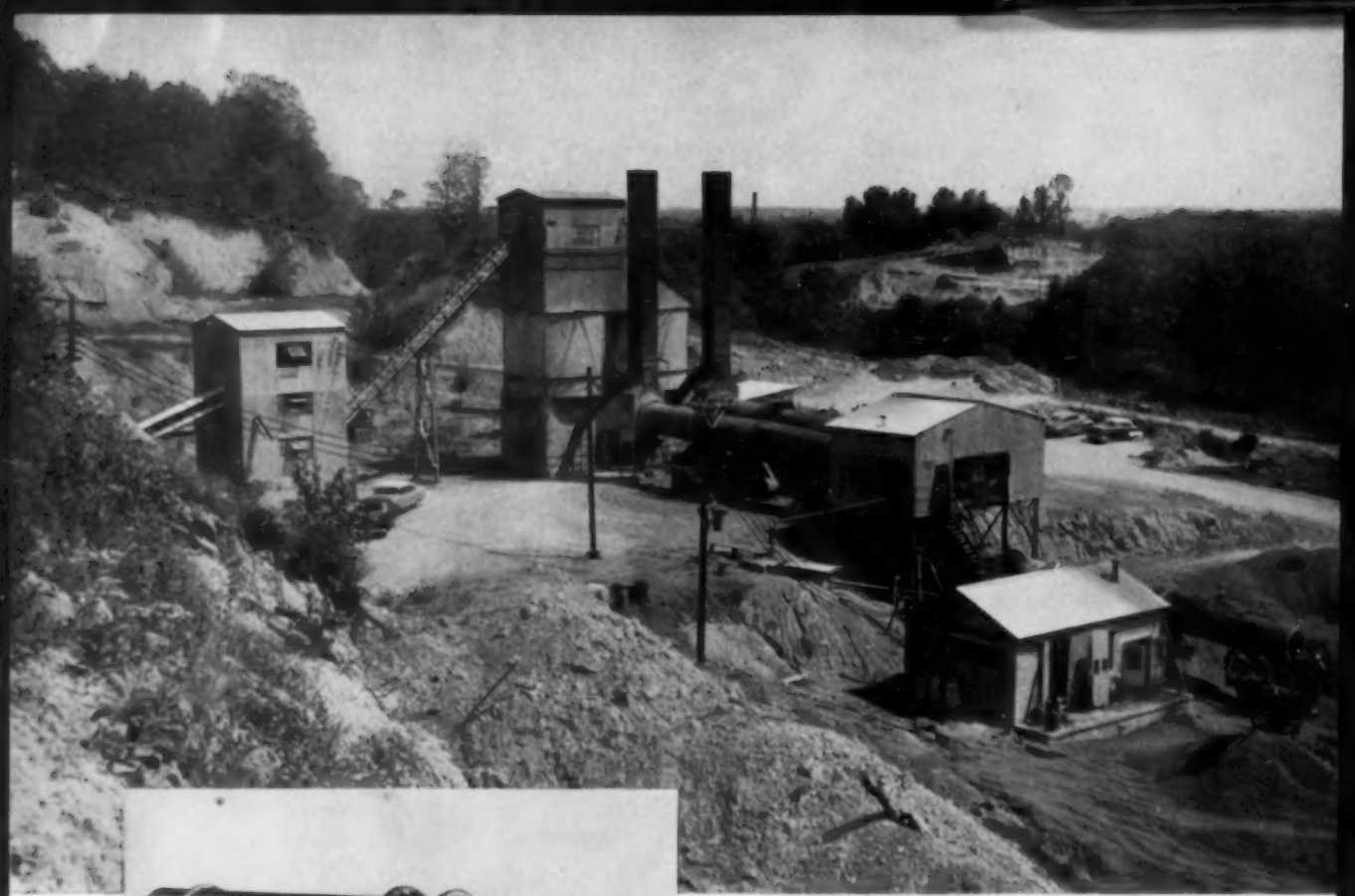
In 1954 Mr. J. H. Besser, President of Besser Company instituted a more formal educational program which consisted of one General Course attended by 17 students. During 1955, 107 students attended 5 sessions of the revised General Course. Students came from the United States, Canada, Germany, Sweden and Brazil.

In 1956 there were 11 sessions of the revised General Course attended by 188 students from the following countries: United States, Canada, Holland, Norway, Korea, India, British West Indies, South Australia, Netherlan Antilles, Columbia, New Zealand

(Continued on page 69)



Prewetting seems to be a solution for the prevention of segregation of lightweight aggregate material; if prewetting is not done, considerable cement can be lost in the voids in the lightweight aggregate.



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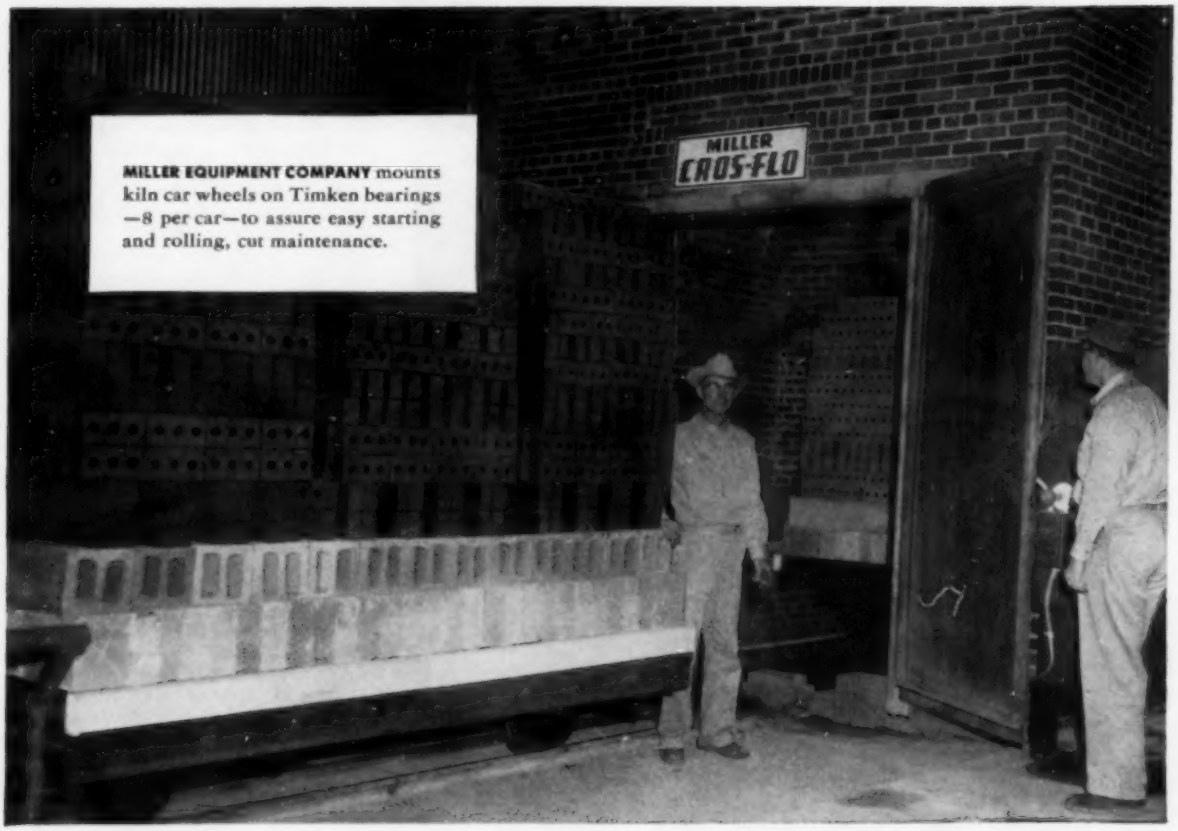

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And for extra quality control, we even make our own electric furnace fine alloy steel. No other American bearing maker does. So for your No. 1 bearing value, specify bearings trade-marked "TIMKEN". The Timken Roller Bearing Company, Canton 6, Ohio. Canadian plant: St. Thomas, Ontario. Cable address: "TIMROSCO".

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"The Hard Sell" Is Coming!

The nation's manufacturers of brick, structural tile and architectural terra cotta will launch their largest program of traveling industrial shows in Philadelphia in February. One show, named "The Hard Sell," is a sales meeting for brick and tile salesmen. The other show, titled "Merchandising Magic with Brick" is a special presentation for local home builders groups. Both shows will travel a total of 12,000 miles on a six-week tour of 18 cities.

The sales conventions are presented by the regional associations of the Structural Clay Products Institute in cooperation with the national SCPI organization. Sponsorship of the home builder shows varies in individual cities, but generally they are presented by local clay products manufacturers and sales outlets.

Although the brick and tile industry has been presenting national sales conventions for five years, "The Hard Sell" is by far the most elaborate program it has yet sent on the road. Enlisting the services of MCA Corporation (Music Corporation of America), one of the country's largest industrial show producers, SCPI has prepared a dynamic sales meeting utilizing the talents of Frank Fontaine, television and motion picture personality, and a group of singers and musicians. Using specially written lyrics, dramatizations and lively comedy skits to pace the program, "The Hard Sell" delivers a sales message with impact.

Emphasis in the sales meetings is on bringing the brick and tile salesman up-to-date on the latest engineering, research and promotional developments in the clay products field, E. F. "Al" Walsh, SCPI promotion director, commented. Subject matter in "The Hard Sell" includes information on curtain wall construction, market studies, reinforced brick masonry, and through-the-wall units for residential use. With merchandising such an increasingly important factor in selling today, there will be special material on effective local merchandising tie-ins with the national program of SCPI.

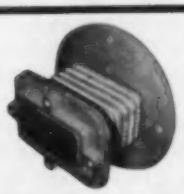
While home builder presentations have been made in the past on both a national and local level by the clay industry, "Merchandising Magic With Brick" marks the first time that the industry has attempted to reach the home builder in his own community with a program of such large scale.

The home builder show employs the same talent cast headed by Frank Fontaine, but has, of course, a different script. The 50-minute show was well planned by SCPI from its start when the National Association of Home Builders was consulted in order to know the needs of the home builder. The show itself has been given an "Award of Merit" by the Joint NAHB-Producers' Council committee, previously awarded to only six other similar shows.

City	"The Hard Sell" Sales Convention	"Merchandising Magic" Home Builder Show
Macon, Georgia	.....	February 14
Houston, Texas	February 18	February 18
Dallas, Texas	February 19	February 19
Denver, Colorado	February 21	February 21
Detroit, Michigan	February 24	February 24
Cleveland, Ohio	February 26	February 25
Cincinnati, Ohio	February 28	February 28
Chicago, Illinois	March 3	March 4
Indianapolis, Ind.	March 6	.....
Des Moines, Iowa	March 10	.....
Minneapolis, Minn.	March 11	.....
St. Paul, Minn.	.....	March 12
Columbus, Ohio	March 14	March 14

Equidensity Adjustable Brick Die

Equidensity Chimney Block Die



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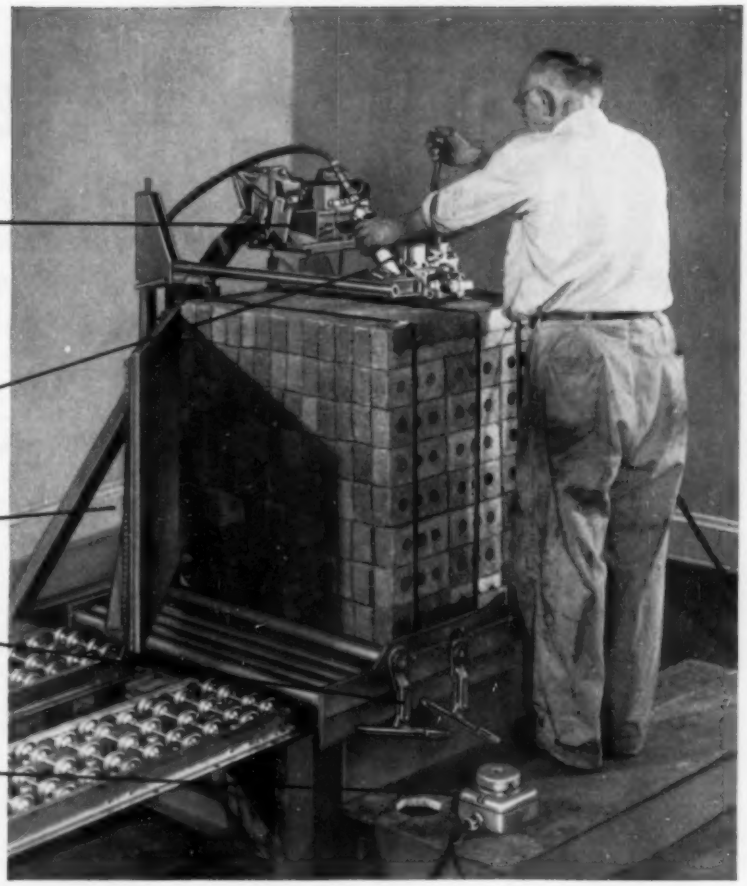
New Signode PSF-1 Power Strap Feeder, powered by ¼-hp 115-volt AC motor, puts strap around pack in seconds.
Signode Model AP58 air-powered Seal Feed Strapping Machine. New Electric Model AE58 also available.
Gate, closed during strapping, provides smooth-sided cube.
Foot controls position cube for second and third straps.
Foot pedal (lifted out of recessed position in platform for visibility) controls strap feeder motor.

NEW! Signode Semi-Automatic One-man Brick Strapping Station

How it works

The operator feeds an end of the strap into the Power Strap Feeder and presses the foot button. The strap is quickly fed, by ¼-horsepower electric motor, down behind the package, across beneath, and up to the operator at the front of the package. No helper needed. Air power in the strapping tool pulls the strap to the right tension every time. One stroke of the handle puts on the seal and cuts off the strap. The whole operation is completed in 8 to 10 seconds... is simply repeated as the package is moved to the next stop. Foot-operated stops provide positive positioning, so all straps go on straight at the right place.

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The new Signode PSF-1 Power Strap Feeder and the famous Signode AP air-powered seal feed strapping machine are combined with a roller conveyor section to make this strapping station. Other combinations can readily be worked out by a Signode representative to meet your needs.

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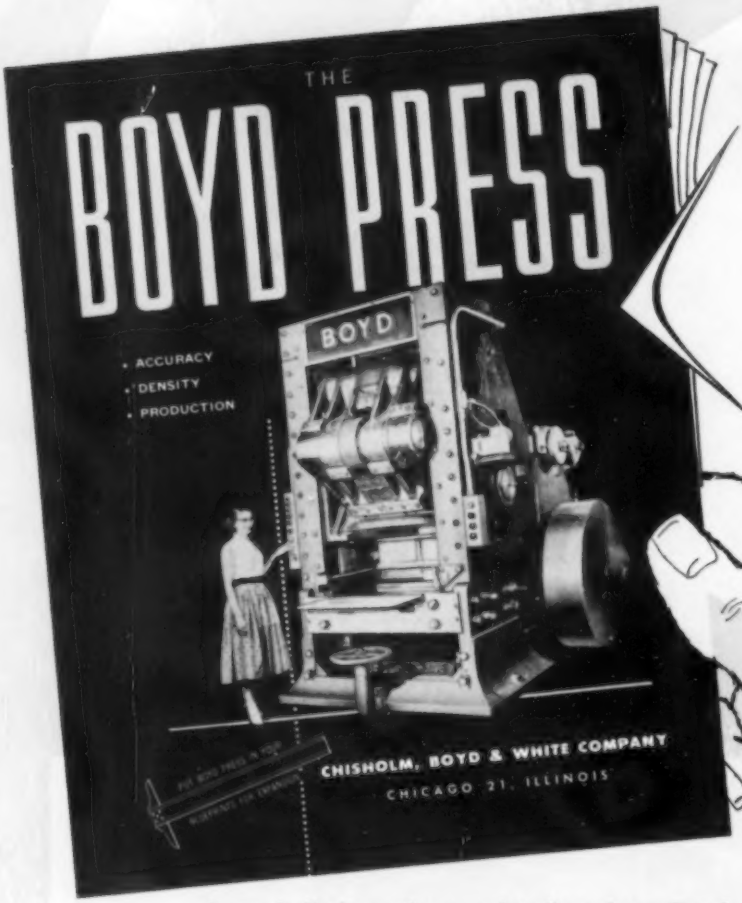

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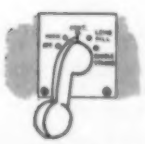

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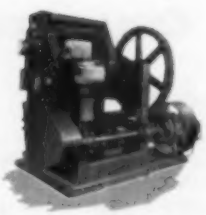

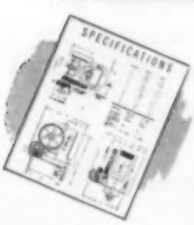

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BRICK
PRESS

Refractories industry, civic groups, city officials cooperated to set up town recreation program to make better city; community built swimming pools, playgrounds through joint effort.

How Industry, Town Worked Together in Mexico for a Better Town

How to make a community a better place in which to live has been accomplished by Mexico, Missouri citizens. Spearheaded by community leaders and backed by every single man, woman and child, Mexico has developed recreation for everyone from the cradle to the grave.

Because there is always something to do for every person in his spare time, Mexico has the minimum of problems among its teen-age group. Its young people stay home after they grow up; in fact, new people are attracted to Mexico from the surrounding towns and countryside.

Colonel C. R. Stribling, President of the Missouri Military Academy at Mexico, and one of the members of the Mexico Recreation Committee, put it this way: "A man works 8 hours and sleeps 8 hours, which gives him 8 hours' leisure or one-third of his life. That is the part of his life which must be filled with wholesome recreation."

How Mexico accomplished this is an interesting and important story. It is interesting because it was accomplished without heavy expenditures and it was attained by everyone in Mexico doing his part. It is important because the pattern set can be adopted by other brick towns throughout the country.

Above and below are two results of program; a local pool and a youngsters pet show.

What the Program Is

The program itself takes care of every individual in Mexico, Mo., man, woman and child, no matter what age.

For the little tots there are playgrounds and sandboxes. For the older children there are slides and picnic grounds. Wading pools are provided for the younger set and a swimming pool for the older children.

The more robust are able to play as much tennis and golf as they like. A very complete baseball program is provided for the young and the old. There are many diamonds, as well as a closed-in lighted baseball park.

Admirers of music can hear the best played in the bandshell which is in the park.

Golfing is for all, and a nine-hole course pays for itself in fees.

Even now the "Golden Years" advisory committee develops programs for the retired. Croquet and shuffleboard are activities for the teen club, which has its own Youth Center and is called the Mexi-Teen Club.

Recreational programs are carried out in the main on a 90-acre site adjoining the high school grounds and in the city limits. Within this area are a modern Girl Scout cabin, a Boy Scout cabin with a large area restricted for their personal use, and a 5-acre lake well stocked with small fish. A swimming pool and two large lakes formed by the mining of fire clay are stocked with fish; a 60-acre plot of ground, the beginning of a golf course with 50 acres purchased and added to the golf links; a model youth center, and now under consideration is the purchase of more land on the other side of town for an expansion of this recreation program. All in all, the activities are carried on over 225 acres of ground with many lake and stream facilities.

How It Works

All activity in this program is supervised at the work level. During the summer months, high school and academy instructors are retained by the Commission to supervise the activities. And these supervisors are the only paid help in the whole chain.

(Continued on following page)

Col. Stribling and Plunkett talk over program.

The recreation program is operated by the Recreation Commission. The Commission is made up of seven members, two of whom are prominent firebrick manufacturers, Herbert B. Plunkett, Executive Vice President of the A. P. Green Fire Brick Co., and J. B. Arthur, Chairman of the Board of Mexico Refractories Co. With them are Colonel C. R. Stribling, the local academy head, and two Mexico businessmen. Two prominent women were elected to the Commission also. This group has been operating since the very beginning of the program. Along with them are the mayor and the president of the school board who are the only changing members of the Commission.

All activities are now self-supporting. Golf, swimming, and baseball pay their own way from minimum charges to those participating.

Each activity is controlled by a board of directors. For instance, the tennis activities are under a board of directors and this board is responsible for the maintenance of the tennis courts and the hiring and running of the paid tennis supervisor. Golf, swimming, baseball, and so on, are also conducted in this way. They are operated under a budget and the board is fully responsible for the activity.

The boards are usually chosen from people who are interested in that particular phase of recreation. Appointments to these boards are made by the Recreation Commission on a yearly basis.

Funds for the recreation program come from three sources: donations, the Community Chest, and a 2-mill tax allowance on community property.

The tax money is expended for the summer supervising, while the other funds are earmarked for capital investment only. Other than the paid help, all maintenance and services are donated by the community as man hours of labor.

10-Year Program in 7 Years

At the outset, it was believed that a 10-year program would be necessary to accomplish the well-rounded recreational program. However, utilizing the 225 acres of land, representing an investment of over $200,000, the program was accomplished in a little over 7 years.

"When we started the program," said Plunkett, "we learned that three things were essential. Recreation, to be adequately supported, must be officially linked with the local government. It must have outstanding citizen control and capable persons to head up the activities. And it must have a continuous, all-year supervised schedule adapted to the people of all age groups."

The Mexico Recreation Commission, therefore, was linked to the town government and backed by it. It was incorporated as a non-profit organization so that it could own the land it would purchase. Herb Plunkett of the A. P. Green Fire Brick Co. was named chairman, J. B. Arthur of Mexico Refractories was made a member and righthand man to Plunkett. The Mexico Ledger, the city newspaper, was responsible for the publicity program, with the cooperation of the civic clubs, business and farm organizations, women's groups, church leaders, teachers, anad officials of the city and county.

The first step was the acquisition of a 40-acre field owned by the school board immediately adjoining the high school, and a 50-acre tract, added to the 40 acres, which was in a rather wild state. Volunteers helped clear this tract of brush and prepare it for recreation. Various civic clubs organized crews and helped construct a multiple sports center, among which was the baseball park—now called Sportsman's Field. Thirty-five hundred man hours of work were required to build the grandstand and the fence. It is lighted better than some minor league baseball fields. The lighting cost $12,500 and was a gift of Plunkett's company. An appliance firm donated the amplifying system.

Continued on next page

BRICK AND CLAY RECORD presents a review of this very fine accomplishment of Mexico, Missouri, because Mexico is a typical brick town. There are many, many brick companies in small towns and many of them are the sole industry in that town. The industry in the town as well as the town government is responsible for the happiness and welfare of its people. Mexico, Missouri took the bull by the horns and has created this happiness through a recreation program. It is hoped that this may be an example for other small towns, with brick companies as the industry in those towns, to follow suit and make its people a happy people.

Steps taken by Mexico, Missouri to accomplish recreation program.

1) Make recreation survey.
2) Choose sites for recreation purposes.
3) Hire firms with experience in laying out recreation sites.
4) Publicize the project to gain cooperation of industry and people.
5) Purchase land and develop.
6) Improve site.
7) Add recreations as time and effort will allow.

MEXICO Continued

The Kiwanis Club dammed up a small stream to create a 5-acre lake now stocked with fish. Rotarians donated a drinking fountain and equipment for tennis, softball and basketball. The Lions Club built picnic tables from lumber given by local building material dealers. Dealers also supplied concrete for foundations which were built by Missouri Power & Light Co. employees.

Women's organizations and teachers' associations provided playground equipment. The firebrick companies furnished material for outdoor fireplaces.

Even prisoners from the county jail volunteered their services to build roadways and shape up the area.

The Beta Sigma Phi Sorority built the bandshell from money they themselves raised.

Next the Commission asked for a tax allowance and received 1 3/10 mills per dollar valuation, which nets about $14,000 a year.

An old, abandoned swimming pool on a public school ground was rehabilitated. The Commission dammed a small stream near the town to form a lake and took control of two lakes from old clay pits.

Commissioner and Mrs. Arthur donated 60 acres of land for a public golf course. An adjoining 50 acres was purchased from the county. Mr. and Mrs. Arthur came through with a gift of $5400 and moved a building out of his plant for a clubhouse. Four thousand man hours of work and 10 civic-minded clubs organized and built the golf course.

A building formerly occupied by a chicken hatchery was completely renovated and made into a teen-age club. The teen-agers did it over themselves with the help of the fire department, the veterans organization and the church women's league to equip the club.

In discussing the matter with Commissioners Plunkett and Arthur, it was pointed out that this entire project is no one man's project and no one man was outstanding in developing it. It is a cooperative measure and everyone has given his all in real community spirit to create a real recreation program.

Such a program must have good leadership, and it also must have the cooperation of everyone in the community. If it is to be a low-cost project and one that will be of the greatest benefit, then the greatest number of people must participate in creating it.

There were literally thousands of man hours that went into creating the facilities—and man hours continue to be poured into these projects, in the form of maintenance, without cost to the Commission or the town.

As previously pointed out, the only operating costs are the paid supervisor and his assistants, of which there are 20 during the summer months. All other supervision is unpaid. Total monies, regularly available, are $14,000 from taxes and $5000 to $6000 from the Community Chest. Other funds are donated—and donations are forthcoming constantly. An example not directly connected with this community recreation but a part of the entire spirit, was the donation of air-conditioning to the hospital by an adjoining town's firebrick company, the Wellsville Fire Brick Co. in Wellsville, Mo.

But the benefits go beyond that, because everyone is kept entertained in the proper channels. Entertainment is wholesome and educational.

Furthermore, small towns generally lose their young people to big cities when they are old enough to seek their own fortunes. In Mexico, on the other hand, the young people stay because their future lies there; they are happy there, and there is good environment for an entire life in the town. All businesses in the town benefit because their workers are happy. Their workers want to stay in town; they are not transients as its frequently the case in smaller towns. As a result, Mexico is moving in all directions —houses are being built outside of the city limits and within the city limits. It is becoming a big town. Here is a program that is truly American, truly democratic, and one that just reeks with happiness all around.

"You and your big ideas about a bonus for pick-up sales!"

McArthur Brick Co. Shut Down

The McArthur (Ohio) Brick Co. plant was expected to shut down in early December, according to the president and general manager of the firm, Herbert S. Hamilton. Reason was given as the building trade slump.

A shipping force will be maintained and the plant will be reopened when the large inventory of brick is "materially reduced."

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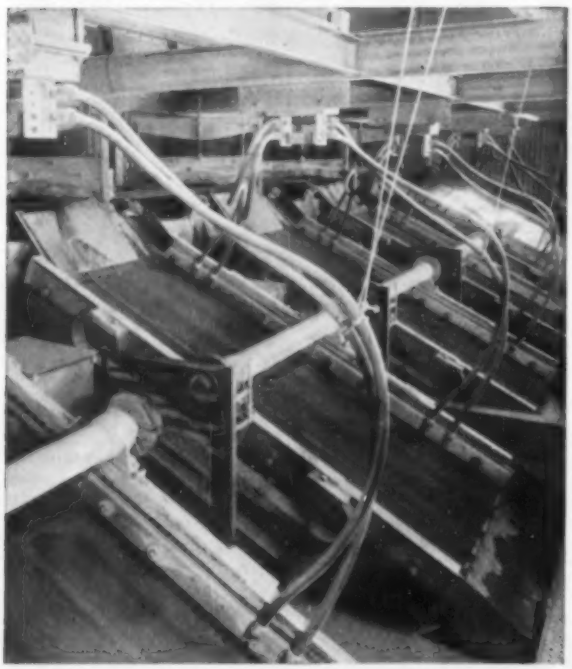

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LONGER CLOTH LIFE. No whipping due to material accumulation.

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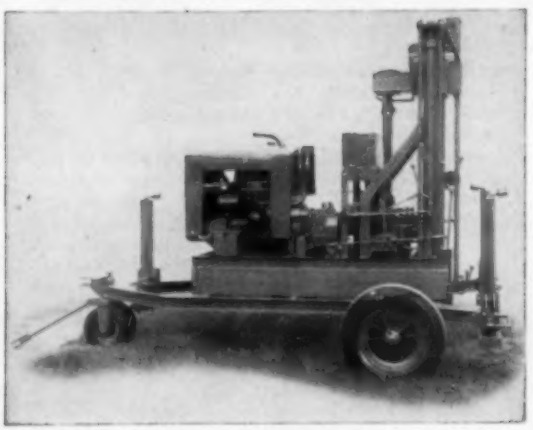

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SCPI, McNall Win Code Change

McNall

S. H. (Sid) McNall, SCPI's Chief Engineer and top-rated code expert, recently went to St. Petersburg, Florida and "brought home the bacon" from the Southern Building Code Congress. McNall reports that the entire chapter on masonry in the Southern Standard Building Code 1957-58 Edition (written by McNall) has been adapted by the Congress. This is one of the five major geographical code groups in the country and its authoritative stamp carries great weight in all the southern states as well as in other areas of the country. Three very significant results of this code change are:

1. This is the first nationally recognized code which permits the use of six-inch through-the-wall masonry units in *any type* of one-story building. This means that the Code now gives its official okay to one-story motels, schools, hospitals, shopping centers, etc.

2. This is also the first nationally recognized code which has accepted adhesion type ceramic veneer.

3. The Southern Code is one of the few nationally recognized building codes which now puts no restriction on the thickness of masonry panelwalls. (Note: This was a case of foresight and good planning on the part of McNall. Working in liaison with the Structural Clay Products Research Foundation, he anticipated over two years ago that there would be a need to cover the "CV PANELWALL"* and the "SCR building panel"** in the Code.)

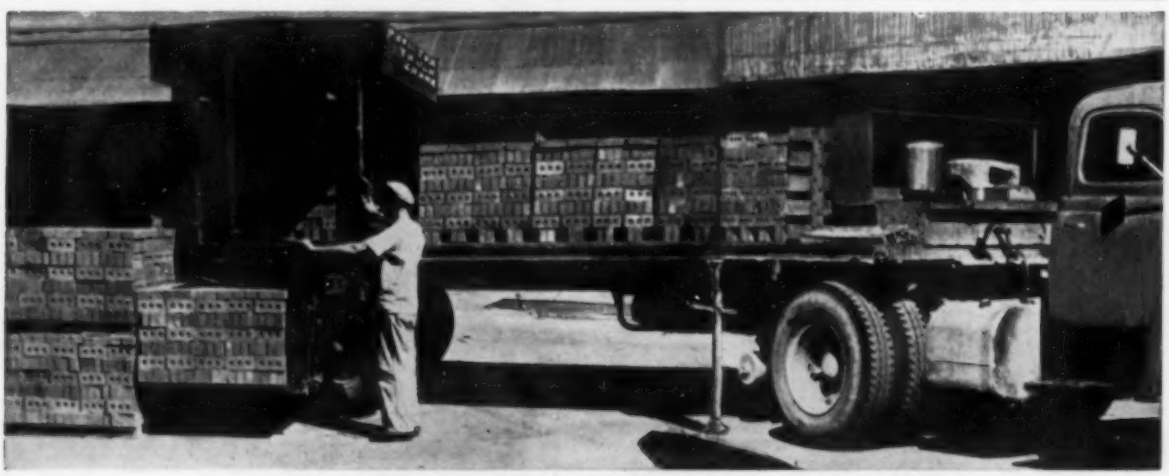
Since McNall's work on the Southern Building Code is typical of the long and careful work which goes into bringing code changes, it is interesting to take a brief look at the background on this particular one.

Two years ago in Birmingham, Alabama, at the Southern Building Code Congress (SCPI is a member), McNall submitted code changes permitting six-inch masonry through-the-wall in any type of one-story building; okaying adhesion-type ceramic veneer and several others. At that time, the Congress' Engineering & Research Committee recommended that the applications be denied. As the Committee pointed out, they were *not* being denied because the Committee *disagreed* with them, but rather because the whole masonry chapter was antiquated and in need of an overhauling.

McNall undertook that rewriting job. He consulted with regional men closest to the situation—Jim Lee of the Southern Brick & Tile Manufacturers Assn.; Bob Foster of Brick & Tile Service, Inc., in North Carolina; and Dean Ramey, who was then with the Clay Products Assn. of the Southwest and who is now Executive Director of the Mississippi-Louisiana Brick & Tile Manufacturers Assn.

After getting the best advice on the subject and adding his own years of experience, McNall produced a new masonry chapter which he formally submitted to the Southern Building Code Congress in Augusta, Georgia last year. This year, the Congress voted adoption of the new masonry chapter and it is now part of one of the top five codes in the United States.

* Reg. T.M., ATCI
** Reg. T.M., Pat. Pend., SCPRF



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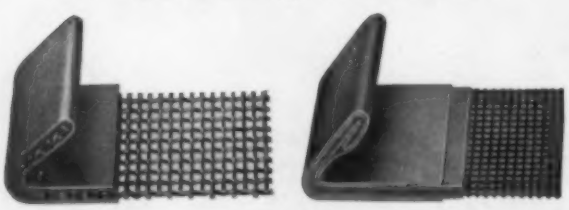

Screen sections of Tyler Woven Wire are fabricated for all makes of vibrating screens in any mesh or metal. They are made up with hook-strip or bent-edge construction to suit the machine on which they are to be used.

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Robco Introduces New Line of "Engineered" Colors

Marketing of Structural Ceramic Glazed Tile in 15 new "Harmony Colors" engineered by nationally famous color consultants has been announced by the Robinson Brick and Tile Company of Denver.

The 15 colors were engineered by the Color Standards Division of the Container Corporation of America, under direction of Herbert Bayer, famed designer and consultant. They were selected from more than 1,200 possible choices.

All colors in the new line form a system which may be used together "in complete harmony," W. W. Robinson, vice president in charge of Robco's Tile division, said. A color free-form drawing and drawings of typical building areas have been prepared by Bayer to show the full 15 colors utilized compatibly side by side.

Robco is specifying a single price for all of the new colors to stimulate use of color in building.

Simultaneously, Robco disclosed development of a unique Harmony Color Selector Kit to assist architects in visualizing "in print" the varied uses of the 15 colors.

The Harmony Color Selector Kit, for use by architects, includes the following:

Tile samples in the 15 new colors, grease pencils matching the tile shades, and an Architectural Handbook.

Handbook Suggests Uses

The handbook includes 12 drawings in color by Bayer, suggesting tile uses in lobbies, building entrances, stairways, corridors, swimming pools, cafeterias, kitchens and other areas.

Each color drawing is followed by a line duplicate in black and white, on which the architect may use the tile-matching grease pencils to experiment with various color concepts of his own.

The kit also contains two acetate sheets with line renderings printed on them. The sheets can be superimposed over the various colors to create special effects. A third blank acetate sheet is provided on which the architect may "doodle" whatever designs he wishes.

Another handbook section suggests uses of tile, Robco "⅝ VitriNeer" and Face Brick, as visualized by prominent leading designers.

The Robco "Harmony Colors" are Horizon Blue, Surf Green, Pearl Gray, Sunflower Yellow, Forest Green, Parisian Blue, Spanish Brown, Fall Red, Coral, White, Desert Cream, Cameo, Seafoam, Shadow Gray and Gray Speck.

"Others in our industry have offered a wide selection of colors in the past," Robinson said. "The trouble is that the selection, like Topsy, "just growed." Someone would ask for a particular hue and the manufacturer would try to oblige. No system existed. The colors did not satisfy, nor were they particularly useful."

"There was no attempt to correlate the colors, and, as a result, few of them went well together. Historically, tile should be used to create a pattern but because the colors were incompatible, glazed tile more and more has been relegated to one-color use in utility areas of buildings.

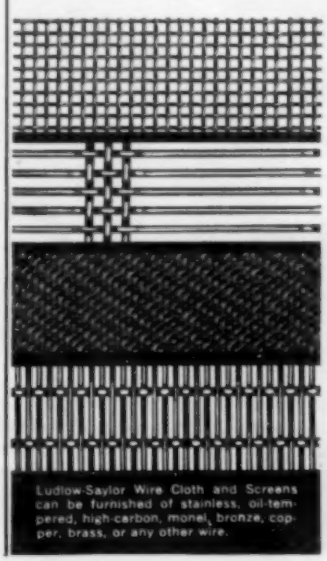
"We feel we have scored an 'industry first' in retaining outstanding color specialists to research a system of integrated colors."

Robco's "color quest" began more than three years ago when it became apparent that "the architect did not want to restrict his use of color but wanted to give free rein to his creative imagination," Robinson said.

"We have coupled with our new colors precision quality in manufacture to assure true, accurate dimensions for structural ceramic glazed tile," he added.

After the colors were designated, Robco's laboratory began the task of producing glazes which matched the color tones selected by Bayer. Production tests later were completed and the "Harmony Colors" were introduced to Robco's market, which includes 23 states, Canada, Alaska and the Philippines.

1 of every 3 production employees perform inspections to insure perfection of L-S Wire Cloth & Screen



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Mortar Color Is Important

Do you realize that you can have three panels of brick (any shades of red or buff) with identical brick in similar positions in each panel and that just by changing mortars get entirely different effects and appearance?

We're not referring to special mortar joints or to such mortar colors as red, buff or chocolate which would very obviously affect appearance drastically.

We do mean that even with similar types of joints that shades of gray alone can affect the appearance and effect of brick work.

One of our editors has investigated panels of buff romans and found that a light gray mortar had a markedly beneficial effect on appearance over a darker gray mortar.

Use The Best Color

There is a best mortar color, type of joint, and even shade of gray mortar for each type of brick, for each color and shade. Yet, too few salesmen, dealers and manufacturers realize this. Wrong choice of mortar shade or type can affect, either consciously or unconsciously, the customer's reaction to the appearance of finished brick work. So it's important for the brick suppliers and sellers to try to have some control over the mortars to be used . . . or at least to make the construction men aware of the importance.

We believe that we could outsell many a salesman, when demonstrating with brick panels, by having a fuller knowledge of mortar appearance and the way it can affect the customer's reaction. Any salesman can do a better job of pleasing his customers if he'll study the different effects of mortar color on brickwork.

Mexico Awards Brickman Statuettes

Silver "Brickman" statuettes were presented to 25 employees of Mexico Refractories Co., in honor of 25 years of service or more, at a recent dinner. The oldest employee, Raymond Newman, with Mexico since its founding, was presented with the first award. Shown above with the award are, left, C. A. Smith, vice president, and J. B. Arthur, board chairman. Brickman awards are also being given to the Mexico distributors who've been with them 25 years or more.

and Greece. Due to an increased desire for Specialized Training in Mechanical, Electrical and Materials and Methods, in 1957 the school conducted 11 Special Courses (with limited attendance required to facilitate instruction) and 6 General Courses which were attended by 175 students from the United States, Canada, Alaska, Panama, South Australia, Puerto Rico and Venezuela.

8 Courses in '58

During 1958 the 8 scheduled courses will be General Courses which consist of lectures, demonstrations and "do it yourself" training in Electrical and Mechanical Preventative Maintenance on block machinery and allied equipment; Materials and Methods covering proper selecting, grading, proportioning and mixing of aggregates; Proper Use of Concrete Masonry dealing with selecting the proper block for its most advantageous use in the wall. In addition, to the foregoing, the latest developments in automatic rack loading and unloading, Curing and Cubing for all types of block plant operations as well as automation of present and new set ups are discussed.

Specialized Training in the above mentioned subjects is available the week following each scheduled General Course this year.

The School has been set up to accommodate 24 persons in the General Course which is of one week duration and 8 persons in the Specialized Training Course which is of indefinite duration. This seems to be the maximum number that can be instructed at one time satisfactorily. In this way, more individual attention can be given each person.

For complete enrollment data and additional information write: Besser School, Besser Company, Alpena, Michigan.

200 Attend Calif. Masonry Promotion Meet

More than 200 of Northern California's top architects, engineers, city officials, brick manufacturers, concrete block makers and masonry industry representatives gathered at San Francisco's Fairmont Hotel Jan. 15 for the area's first Masonry Industry Promotional Dinner.

Sponsored by the Masonry Joint Industry Board of the Northern California Coast Counties, the meeting was under the direction of Oscar Person, Person & Wik, Burlingame, and co-chairman R. W. Harrington, executive secretary of the Clay Brick & Tile Association, San Francisco.

Special guest was Joseph Stryker, Executive Director of the Structural Clay Products Institute, who flew to San Francisco from his Washington, D. C., headquarters to be present.

Speakers were John A. Blume, structural engineer and head of John A. Blume & Associates, San Francisco, and Ulysses Floyd Rible, Los Angeles architect and regional director for California, Nevada and Hawaii of the American Institute of Architects.

Rible, speaking with a bluntness developed by "long architectural experience in the use of masonry" both praised and criticized the industry and suggested a program of activity to be followed in building greater use of brick.

"I like brick," Rible declared, "because it has color, texture, is flexible in its adaptation to shapes and surfaces, is low in cost and particularly low in maintenance, and its general appearance is desirable.

"I don't like brick," Rible continued, "because there is not enough variety of color in common brick, or in grout and because labor in this field has not been too cooperative in efforts to keep costs down."

Rible suggested that "the masonry industry should develop a far greater range of colors in common brick and a wider range of textures without increasing costs.

"Common brick," Rible declared, "still is too soft and too easily damaged."

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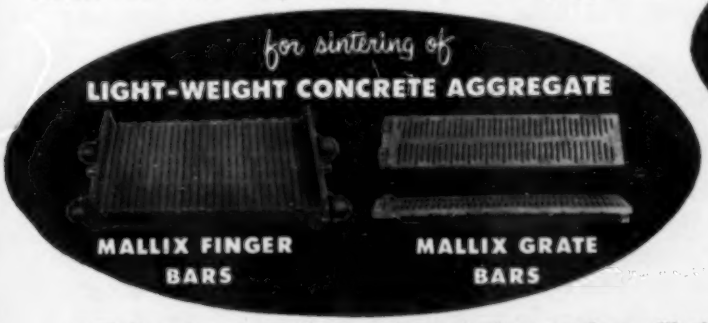

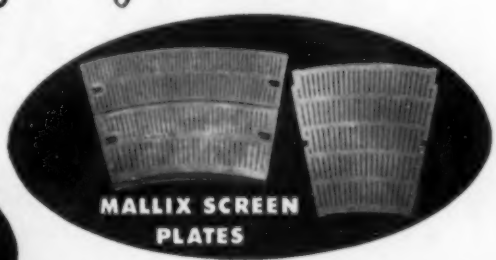

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TRADE NEWS

N. V. Coyle, board chairman of **Zirconium Corp. of America,** Solon, Ohio, has announced that Norman A. Spector has been made a director of the firm. Dr. Spector is a vice president of **Vitro Corp. of America.**

Appointment of Harry M. Thompson as Supervisor, Product Information and Sales Training for the Industrial Division of **J. I. Case Co.,** Racine, Wisc. was announced recently.

Robert F. Poole has joined **Chisholm, Boyd & White Co.,** Chicago, manufacturers of the Boyd presses, as a sales engineer.

W. Va. Pulp & Paper Sets Up Ceramic Lab

Now officially open is a modern, specialized ceramic laboratory recently constructed for the Polychemicals Division of West Virginia Pulp & Paper Co., Charleston, South Carolina.

The lab will be devoted exclusively to research and development of Polyfon, a chemically active binder for the ceramic industry. Equipment available in the new laboratory is reported to allow detailed evaluation of all types of ceramic bodies, including dry pressed and extruded tile, clay pipe, refractories and brick.

A. T. Henson has been appointed to supervise operation of the laboratory.

Haile Mines Buys Nat'l Paint & Manganese

Haile Mines Inc. has acquired National Paint & Manganese Co. of Lynchburg, Va., according to a recent announcement. The former NP&M company will work now as a division of Haile.

The former owners of National Paint & Manganese, John M. Carter and Joseph J. Thaxton, will be co-managers of the division, the report said.

Fulrath Named President of No. California ACS Group

On Tuesday, December 3, 1957, 81 members and guests of the Northern California Section of The American Ceramic Society enjoyed their Christmas meeting at the International Kitchen, Niles, California. During the social hour, and a good portion of the dinner, they were entertained by Pete Valentine, Sr., of Del Monte Properties Company, who played the guitar and had two friends with him who sang and accompanied Pete and his guitar. The music and songs were enjoyed by all.

At the conclusion of the dinner, election of officers was held for the year 1958 with R. M. Fulrath elected Chairman; D. A. Bussey, Vice-Chairman; Roger Riley, Secretary and Ray Davies, Jr., Treasurer. The announcement was made that Leslie Alt would serve as counselor for the coming year.

The speaker for the evening was the former Section Chairman, Dr. Joseph A. Pask, Professor of Ceramic Engineering and Chairman of the Division of Mineral Technology, at the University of California. Dr. Pask discussed "Latest Developments in Research on Ductile Ceramics." This is an entirely new phase of ceramics and is something that all members of the Ceramic Society are vitally interested in.

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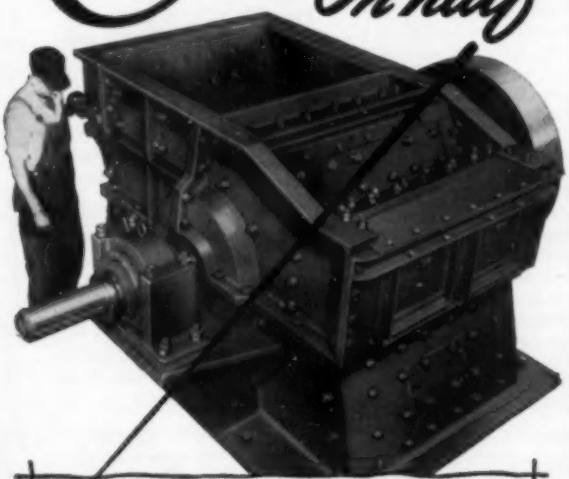

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BERGENFIELD 15, NEW JERSEY

Boyd Press Bulletin

C, B&W is offering a new bulletin on the Boyd refractory brick press, with the 12-page manual providing specifications, clearance data, general arrangement drawings and operating characteristic data on the Model X and new Model Y presses. Chisholm, Boyd & White Co., Chicago 21, Ill.

356/Circle on Reader's Service Coupon

Additive-A Booklet

A 16-page illustrated booklet detailing the uses and properties of Additive-A, a new multi-purpose clay conditioner, has been published by Kimberly-Clark. Description of the product, its range of uses, what it does and how it is used are included in the booklet, along with installation details. Kimberly-Clark Corp., Neenah, Wis.

357/Circle on Reader's Service Coupon

Strap Power Feeder

A four-page folder describes Signode's new Power Strap Feeder Model PSF-1. The book tells how the Feeder feeds vertical straps around packages, in many cases eliminating a "back man" or helper. Signode Steel Strapping Co., Chicago 47, Ill.

358/Circle on Reader's Service Coupon

Koehring Excavator

A new 4-page bulletin is available on the crawler mounted 805 excavator, used as a 2 cu. yd. shovel, 2 to 3 cu. yd. dragline or clamshell, or 52-ton lift crane. Koehring Co., Milwaukee 16, Wis.

359/Circle on Reader's Service Coupon

IH Diesel Line

A new 12-page catalog covers the line of six diesel power units made by IH. Of these units, three are 4-cylinder and three are 6-cylinder, with horsepowers ranging from 60 up to 200 hp. Included in the book are diagrams, cross sections, exploded views, etc. International Harvester Co., Chicago 1, Ill.

360/Circle on Reader's Service Coupon

Para-Flex

Para-Flex, the new flexible cushion coupling, is described in a new 12-page bulletin from Dodge. The book explains how the coupling accommodates angular misalignment, parallel misalignment and end float, singly or in any combination, plus other advantages. Dodge Mfg. Corp., Mishawaka, Ind.

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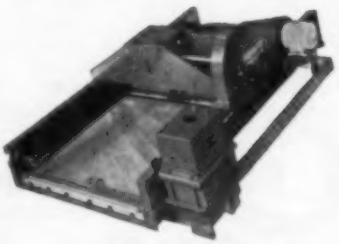

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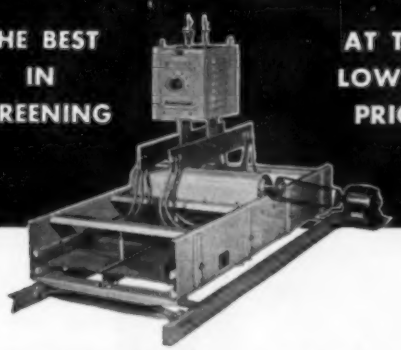

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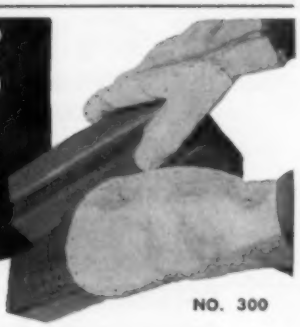

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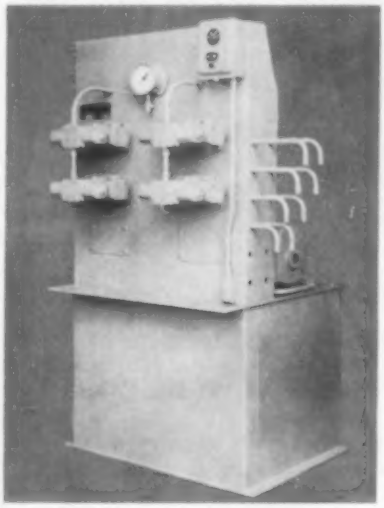

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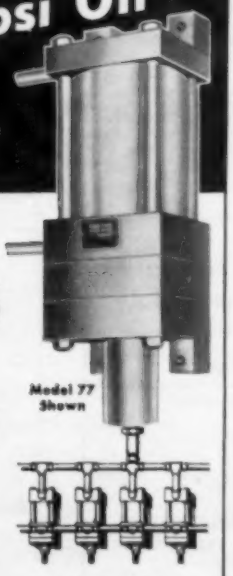
Up To
10,000 psi Oil
from
Shop Air!



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POSITION WANTED—As superintendent or general manager of brick or hollow tile plant.. Have twenty five years experience and am capable of handling operation from clay pit through to the finished product. Can furnish best of references from former employers. Address Box 1-RAK in care of BRICK & CLAY RECORD.

WANTED—HELP

WANTED—Ceramist to head research and development work on specialty refractories. Good salary with special incentive plan. Previous experience preferred. Eastern Seaboard location. Address Box 1-RAV in care of BRICK & CLAY RECORD.

WANTED—HELP

SALESMAN WANTED—To represent national line of refractories in western states. Send job history and references when asking for details. Box 2-RBC; care of BRICK & CLAY RECORD.

WANTED
Superintendent
Plant Manufacturing Drain Tile and Hollow Ware Made From Shale.
O. E. Powell, Pres.
Indiana Drain Tile Company
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FOR SALE

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SMOOTH ROLLS—16x30, 30x36
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DISINTEGRATERS—12", 18" & 24"
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LAB BLUNGER—50 gallon
HAND TILE PRESS
MIXERS—Lancaster EAG 3 & 4, Clearfield & Blystone
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REPRESS—Bonnot 2-mould
FEEDERS—Disc, Apron, Reciprocating
HARDINGE CONICAL MILLS—3', 7', 10'
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Phone Hillcrest 2-0061

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CUTTERS: Steele #18, Chambers 22, Amer 498B
CRUSHERS: 1830 sgl roll, Walker Elliott Rotary Steele 1222, 1832, Brewer conical 1822
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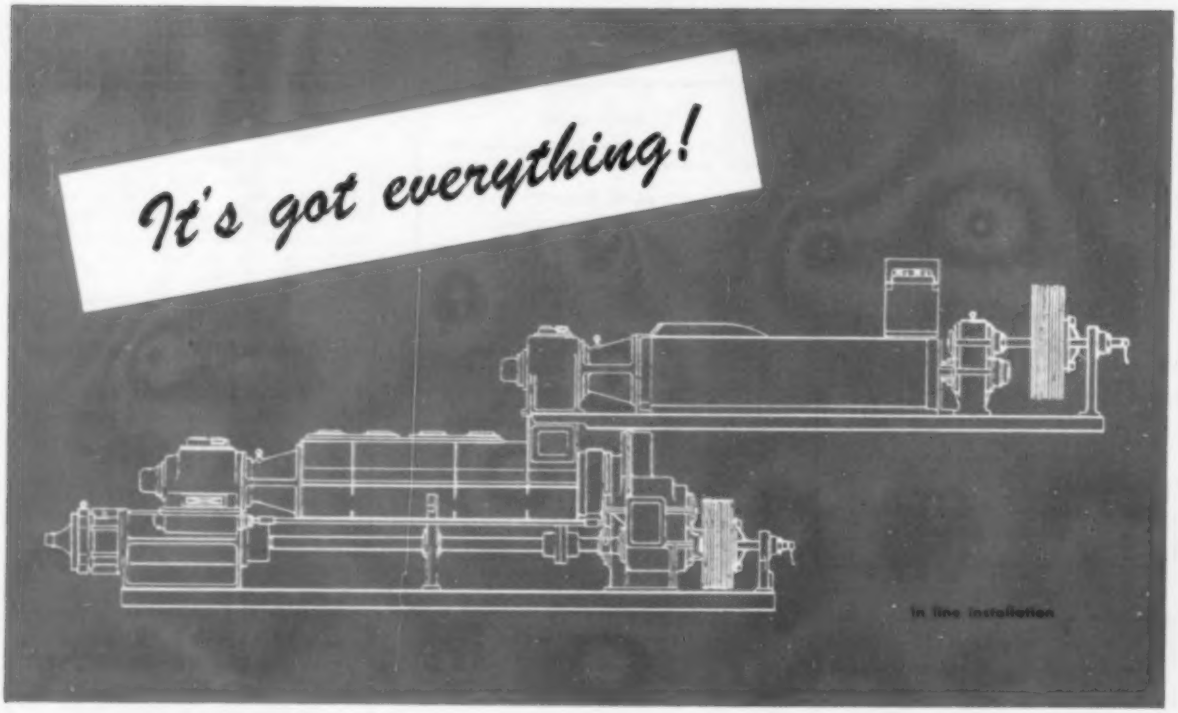

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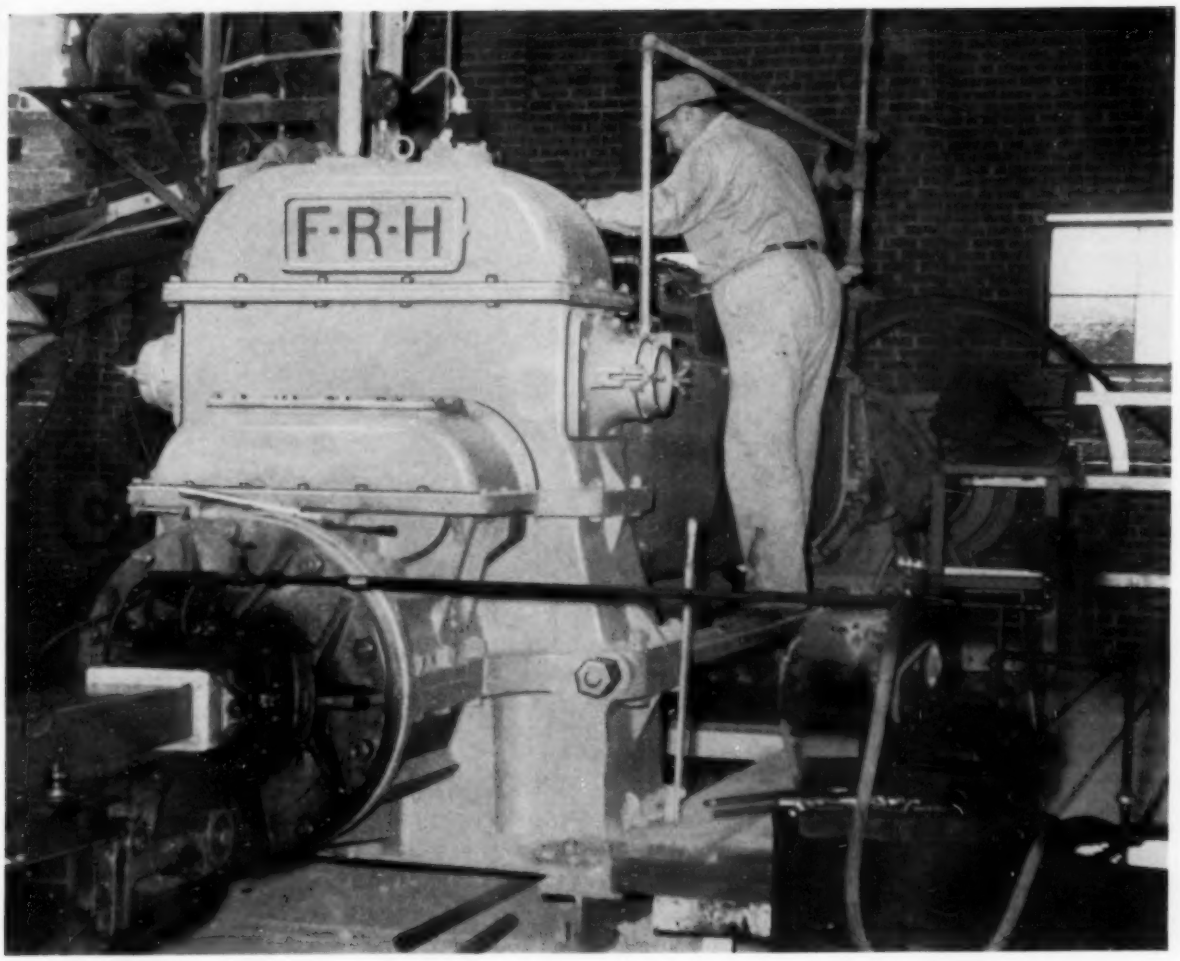

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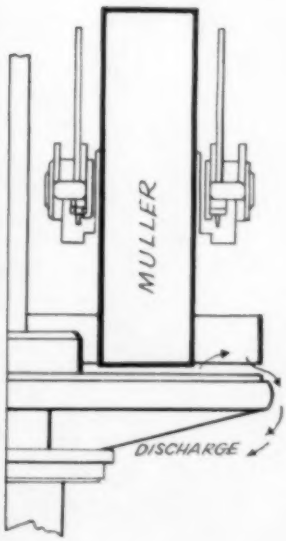

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OVER A CENTURY OF EXPERIENCE IN THE MANUFACTURE OF CLAY MACHINERY